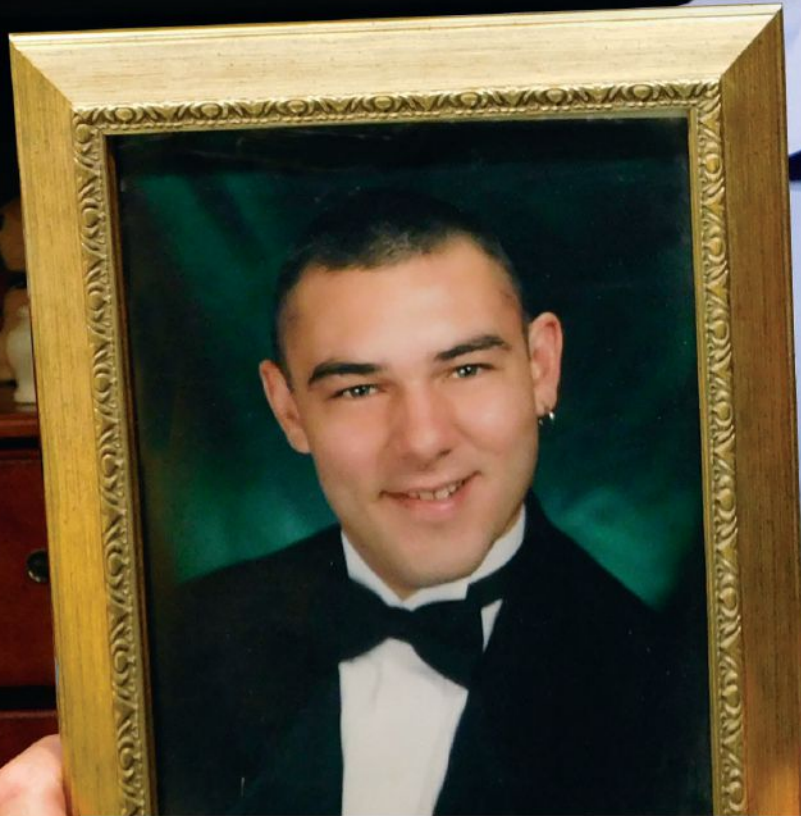


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A Father's Story of a Senseless Death

Ed Salazar, RRT, CPFT, RPSGT, believes continuous monitoring could have helped save the life of his son Chris.



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AARC Strategic Plan

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

Bookmark this page:
http://www.aarc.org/member_services/mission/.



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AARC Partners with CDC in 2016: Tips from Former Smokers Campaign (TIPS)

by Thomas J. Kallstrom, MBA, RRT, FAARC

There are benefits to having partners that share your mission and goals, and while reaching for these goals, there is strength in the number of partners. This is why we were honored when the CDC approached the AARC in late 2015, inviting us to partner with them in their 2016 Tips from Former Smokers (TIPS) campaign. You may be familiar with this campaign, which has garnered a lot of attention over the past few years. As part of this effort in 2016, the AARC will be joining the Allergy and Asthma Network and the COPD Foundation. Respiratory therapists have such an important role in counseling patients and caregivers in smoking cessation efforts. If you want to learn more about this year's campaign, go to <http://www.cdc.gov/tobacco/campaign/tips/index.html>

The TIPS campaign goals are to:

- Build public awareness of the immediate health damage caused by smoking and exposure to second-hand smoke.
- Encourage smokers to quit and make free help available.
- Encourage smokers not to smoke around others and nonsmokers to protect themselves and their families from exposure to second-hand smoke.

By reaching out to the public with these messages, we hope to see a positive impact. By showing graphic videos and true testimonials of the ravages of smoking, the message is getting across and seems to be making a difference. Looking at the first year of TIPS, the results were very impressive. In fact, according to the CDC, an estimated 6 million nonsmokers talked with family about the dangers of smoking, and an additional 4.7 million nonsmokers recommended cessation services to their friends or family.¹

One particular study by McAfee et al² demonstrated that an estimated 1.64 million Americans tried to quit because of the campaign with an assumed 100,000 expected to quit for good. Another study by Xu et al³ went on to analyze the cost-effectiveness of the 2012 TIPS campaign. Their findings indicated that, based on the number of people estimated to have quit smoking for good (about 100,000 as noted by the McAfee study), the campaign likely prevented at least 17,000 premature deaths and helped gain about 179,000 years of healthy life. Total campaign costs were \$48 million. Breaking this down, TIPS spent approximately:

• \$480 per smoker who quit
• \$2,819 per premature death prevented
• \$393 per year of life saved
• \$268 per year of healthy life gained

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- \$2,819 per premature death prevented
- \$393 per year of life saved
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The 2016 campaign kicked off on January 25, 2016, and will continue for 20 weeks. Over this time, key messages will focus on these facts:

- COPD is usually caused by smoking.
- COPD includes emphysema, chronic bronchitis, and, in some cases, asthma.
- How severe your COPD symptoms are depends on how damaged your lungs are. If you keep smoking, the damage will get worse faster than if you stop smoking.
- Among 15 million U.S. adults with COPD, 39% continue to smoke.
- Smoking during childhood and teenage years can slow how lungs grow and develop. This can increase the risk of developing COPD in adulthood.
- Smoking accounts for as many as 8 out of 10 COPD-related deaths.
- As many as 1 out of 4 Americans with COPD never smoked cigarettes.

about the author...



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

Respiratory therapists are at the front of the line providing patient care and self-management education, and we are in a key position to influence our patients and caregivers about the dangers of tobacco use.

Thankfully, this campaign will also be directed to the patients with a diagnosis of asthma. There are some interesting studies that detail the denial factor of patients who arrive to the emergency room with respiratory exacerbation. One study of patients with asthma who smoked (while a bit dated but still pertinent) noted that only 4% of the patients with asthma in the emergency room felt that their admission had anything to do with the fact that they were smokers, even though 50% thought that smoking did worsen their asthma symptoms.⁴ There can be a substantial sense of denial by smokers/patients we treat for chronic pulmonary disease. Certainly, the RT can play a powerful role in counseling these patients.

In early 2016, the AARC introduced a training module developed specifically for the respiratory therapist called *Clinician Training on Tobacco Dependence for Respiratory Therapists*.⁵ As we know, respiratory therapists have a unique opportunity to talk with people in a variety of settings regarding tobacco use. However, many RTs may not be comfortable with the sometimes difficult conversation of tobacco cessation. This course was designed specifically for the respiratory therapist to increase your proficiency and comfort level in having these crucial conversations with patients and caregivers. This course provides the RT with guidance for delivery of personalized, tailored tobacco cessation interventions that can be offered in a variety of environments. The tobacco and smoking cessation training consists of multiple videos focusing on epidemiology of tobacco use, nicotine

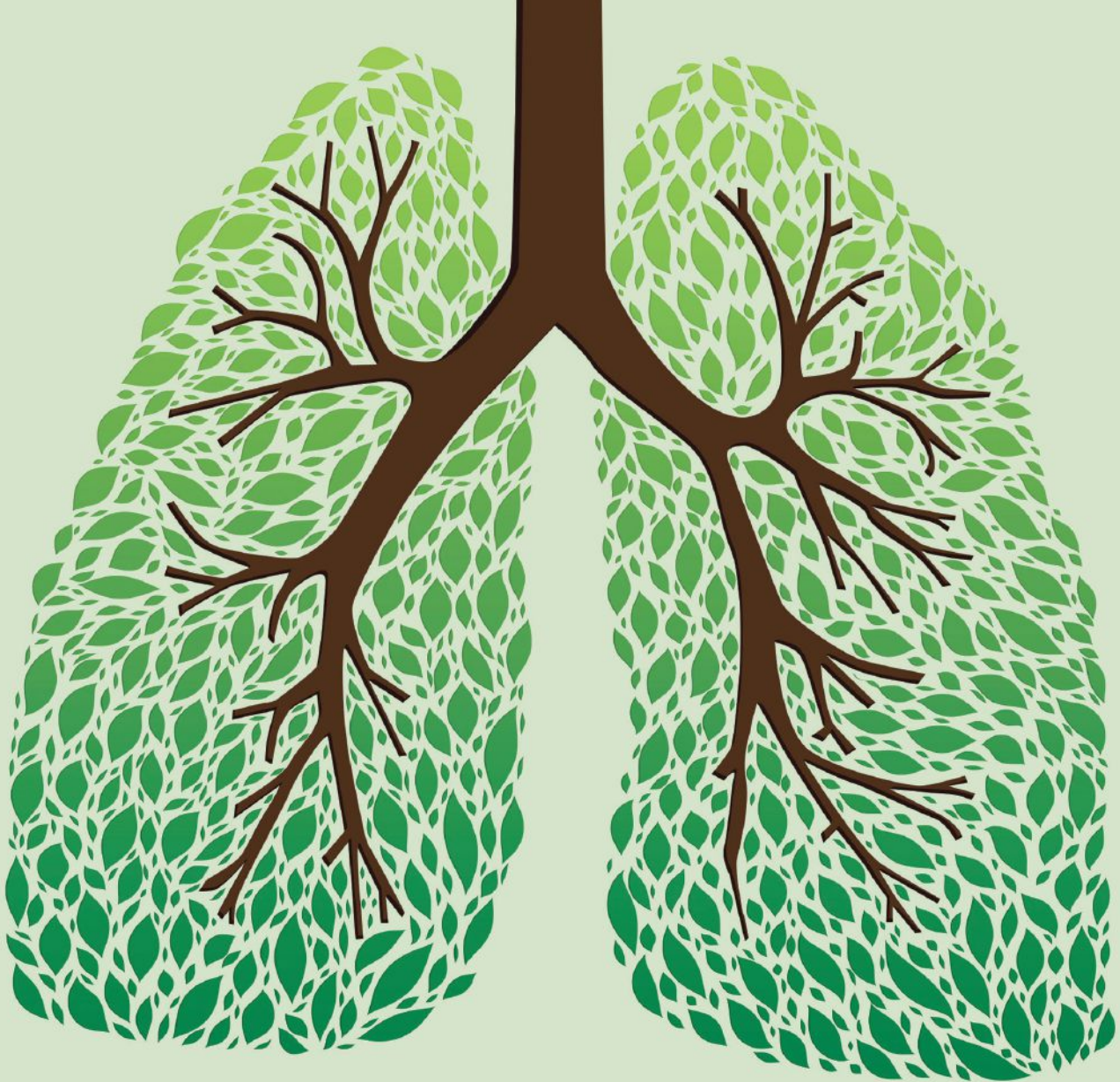
pharmacology and principles of addiction, nicotine and non-nicotine pharmacotherapy, assisting patients with quitting, motivational interviewing, reimbursement, and systems change. In addition, special situations such as tobacco users who are pregnant, teens who use tobacco, and cardiac patients who use tobacco, are addressed in this program that awards 5.0 CRCE credits. The program addresses the need for tailored, interactive, behaviorally focused video examples to demonstrate appropriate interactions with the tobacco user.

Our efforts will not stop here and I encourage you to join the AARC Tobacco Free Lifestyle Roundtable on AARConnect (<http://connect.aarc.org/home>). There you will be able to network with other RTs with an interest or who are doing smoking cessation teaching. There will also be RT-specific information on the CDC site during the campaign, so I encourage you to frequently go to the site: <http://www.cdc.gov/tobacco/campaign/tips/index.html>. ■

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Respiratory Therapy Hill Advocacy Day 2016

by Cheryl West, MHA

In just a few weeks, the 17th annual respiratory therapy Capitol Hill Advocacy Day (“Hill Day”) will once again take place in Washington, D.C. This is a joint endeavor between the state societies, the AARC, and dedicated respiratory therapists who are appointed as Political Advocacy Contact Team (PACT) representative(s) by their state society. This important annual event is held to ensure that at least once a year members of Congress from both the House of Representatives and Senate meet face to face with articulate and knowledgeable respiratory therapists who are there to convey the legislative issues of importance to the profession and the pulmonary patient.

The 2016 Hill Day is scheduled for April 12. Your PACT representatives will meet with their members of Congress to garner support for H.R. 2948, the Medicare Telehealth Parity Act. This bi-partisan legislation will positively impact respiratory therapists and the respiratory care profession and profoundly help Medicare pulmonary patients. The bill adds respiratory therapists to the Medicare statute as qualified telehealth providers. It also covers respiratory services via telehealth delivery systems and remote patient monitoring services for certain chronic conditions that include COPD.

It is important to note that when your PACT representatives go to Washington, they don’t just make “cold calls” on members of Congress (i.e., dropping by congressional offices and hoping there will be someone available to discuss our issues). For our Hill Day, every visit the RTs make is a scheduled and confirmed meeting. Before coming to Washington, your PACT representative personally sets up the meetings — which is not an easy task, and often requires multiple, persistent contacts and requests to a congressional office. For well over a

decade, your PACT reps have secured at least 350 solid, confirmed Hill appointments each and every year, which is a formidable accomplishment.

We’ve noticed over the last few years that because of the time demands on Congress, some House members won’t meet with anyone other than a constituent who lives (and thus votes) in their Congressional district. When a non-constituent PACT representative requests

a Hill Day meeting and the request is declined by a Congressional office, we have a plan. With help from the leadership of the state society, the PACT representative finds a “willing” RT who actually does live in the member’s district. We then ask that RT to request that the Congress member meet with the PACT RT, even though the PACT representative isn’t a voter. This strategy works more often than not. It sounds complicated, but that’s just one example of the behind the scenes work your PACT representatives and state society leadership do to make that one day on Capitol Hill a meaningful one.

It’s important to note that we don’t go it alone, either. We invite and

collaborate with other like-minded pulmonary patient organizations such as the COPD Foundation, the Cystic Fibrosis Foundation, the Alpha One Foundation, and the Pulmonary Hypertension Association. It is important to note that our long-standing partner in these endeavors is the Allergy & Asthma Network (The Network), an organization that shares many common interests and issues with the AARC and the pulmonary community. The Network stands firmly behind advancing H.R. 2948 on the Hill.

Another Hill Day tradition is inviting students enrolled in D.C. area RT education programs to participate in Hill Day. We expose these future RTs to a side of the AARC

about the author...



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

and state societies that goes beyond the familiar clinical and education aspects provided by both associations.

In terms of our current legislative effort, H.R. 2948 is a more complex bill than those we've previously advocated for and there are numerous other organizations and associations that are up on the Hill lobbying to advance H.R. 2948 through the legislative process. In other words, there are many hands pushing this "ship" forward.

The 2016 Hill Advocacy Day will be a bit different than in past years. For the first time ever, the AARC's Board of Directors will hold its yearly spring meeting not in Dallas, Texas, but in Washington, D.C., just prior to Hill Day commencing. AARC President Frank Salvatore recognized that there are a number of AARC Board of Directors' (BOD) members who also happen to be a designated state PACT representative, and these RTs would be in D.C. for Hill Day, board meeting or not. By having the board meeting in D.C. just days prior to Hill Day, the entire BOD, PACT representatives or not, can experience up close what Hill Day is all about and also participate with the RTs from their states on Hill visits.

But no matter how many dedicated PACT representatives, RT students, AARC BOD members, AARC staff, and participants from other patient affiliated

or supportive organizations we have rallying up on the Hill, we still need you — the RT — and those who support the RT profession to make your own Congressional members aware of the importance of H.R. 2948. As we have done for several years now, we will launch a Virtual Lobby Week just before Hill Day and have a webpage (http://c.aarc.org/advocacy/lobby_week/index.cfm) that makes it easy for you and others to email your members of Congress and let them know that you want them to support the Medicare Telehealth Parity Act.

The Virtual Lobby Week page explains what the legislation is all about and provides a simple link to our Capitol Connection page (<http://capwiz.com/aarc/issues/?style=d>) where respiratory therapists, RT students, pulmonary patients, and physicians can send an editable email to their House member and both of their senators. Because this is an election year, you will find that members of Congress who are up for re-election (the full House of Representatives and one-third of the Senate) tend to listen to their constituents a bit more closely than in other years.

Your voice will increase the impact of the message your RT PACT representative will be delivering in person to Congress on April 12! ■

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Chronic Disease Manager

What Are Z-Scores and Why Should You Use Them?

by Gregg L. Ruppel, MEd, RRT, RPFT, FAARC

The most common method of reporting pulmonary function data in the United States is to record the patient’s measured value, their predicted or expected value, and the ratio of these two numbers expressed as a percentage (% predicted). This approach is useful because it allows us to compare an individual patient to an expected value in a healthy subject of the same age, height, sex, and ethnicity. Comparing a patient’s results to his or her predicted values provides a means to judge normality or abnormality in patients for whom serial testing is not available. Unfortunately, the % predicted introduces a number of problems when we are trying to judge the likelihood of lung disease.

The problem with traditional PFT reports

For over 50 years, many interpreters of pulmonary function tests have used the “80%” rule to assess pulmonary abnormality. This approach fails because the variability that we observe in healthy subjects cannot be accounted for by a single cut-off value. Figure 1 illustrates this dilemma.

The shaded areas represent the variability between the expected and the lowest 5th percentile (more about

this later) for two females, one who is 180 cm tall, and the other who is 150 cm. The dashed lines show 80% predicted for each subject. In a tall female 25 years old, 80% is below the statistically valid lowest 5th percentile. A 25-year-old female whose FEV₁ was 81% predicted would be significantly lower than expected, but applying the 80% rule would misclassify her as having a normal

FEV₁. Similarly, a 75-year-old woman whose FEV₁ was 78% predicted might be considered to have reduced lung function even though she was well above the lowest 5th percentile. This type of misclassification occurs commonly when fixed cut-offs are used, particularly for the FEV₁/FVC ratio, which we use to define airway obstruction.¹ The bias introduced by using a fixed percentage such as 80% is why the American Thoracic Society/European Respiratory Society guidelines² recommend using the lowest 5th percentile to define the lower limit of normal (LLN).

about the author...



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The 5th percentile and the z-score

So, what is this lowest 5th percentile and how does it relate to z-scores? Figure 2 shows data that is normally

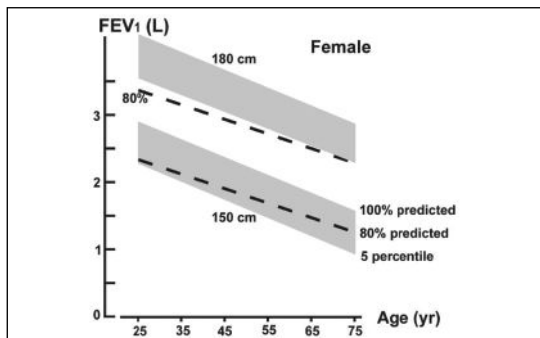


Figure 1.

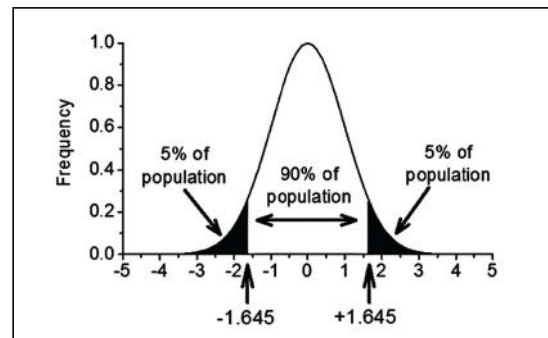


Figure 2.

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distributed, the so called Gaussian or bell-shaped curve. The lowest 5th percentile is defined as those individuals (or their PFT value for a specific test like the FEV₁) that make up the lowest 5% of the population of healthy subjects. If the data is normally distributed then the limit that defines the lowest 5% is -1.645 standard deviations (SDs) below the mean. Similarly the upper limit can be defined as the highest 5% of subjects or their PFT values.

When this methodology is applied to a regression analysis in healthy subjects, each subject has their measured value compared to their predicted. The difference is called the residual. Some individuals will fall above the regression line, some below it, but the sum of all the residuals will always equal zero. If we calculate the SD of all the residuals, we have the residual standard deviation (RSD), sometimes called the standard error of estimate (SEE). Figure 3 shows the regression line for

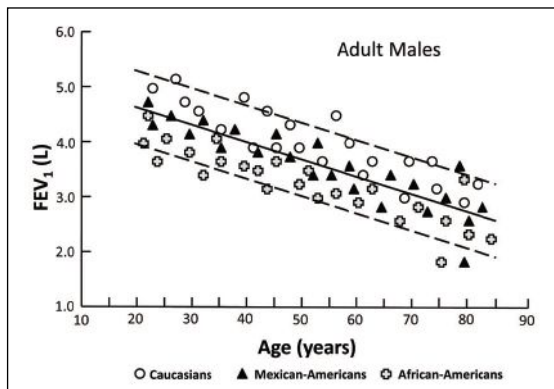


Figure 3.

FEV₁ versus age in the males of the National Health and Nutrition Examination Survey III study.³ The dashed lines represent +1 and -1 RSD. Assuming that the FEV₁ is normally distributed (not exactly, but close), we can calculate the lowest 5th percentile as -1.645 × the RSD. The RSD can also be used to compute a z-score. The z-score basically describes how many SDs the patient's measured value is above or below the predicted value.

$$Z\text{-score} = (\text{Observed} - \text{Predicted})/\text{RSD}$$

The z-score goes by other names, such as standardized residual (SR) or standard score.

Z-score example

Consider an example from the PFT lab. Figure 4 shows a 45-year-old patient whose FEV₁ is 2.1 L. Subtracting this from his predicted (3.8 L) gives us the residual difference. The RSD for the healthy population in this case

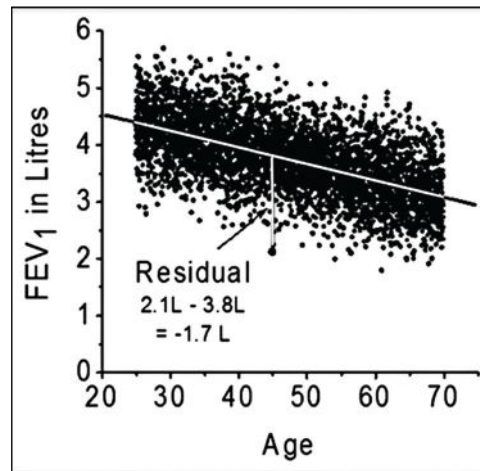


Figure 4.

(represented by the black dots) is 0.51 L. The z-score can be calculated:

$$z\text{-score} = (2.1 - 3.8)/0.51 = -3.3$$

where 0.51 is the RSD derived from the variability in healthy subjects.

The patient's z-score is -3.3, well below the LLN of -1.645. Z-scores can be used with any PFT parameter for which the variability (RSD) is known. Z-scores of -1.645 or less place the individual in the lowest 5th percentile and are not biased by age, height, sex, or ethnicity.

There are some limitations inherent in using the RSD to compute the z-score. Many PFT parameters are not normally distributed, and the variability around the mean may be different at the extremes of age. However, these shortcomings can be overcome using sophisticated statistical techniques that account for the skewness and variability across different age groups.⁴ Another important limitation is that the lowest 5th percentile represents "false positives"; that is, we consider these values as abnormal for clinical purposes because they are far below the expected, even though they are derived from a healthy population. Because of this, care must be taken when interpreting PFT values that fall at or near the LLN.

How to use z-scores in your PFT lab

There are several ways that respiratory care practitioners can implement the use of z-scores or the 5th percentile as LLN in the PFT lab. One approach would be to include the LLN (or ULN [upper limit of normal] for PFT parameters that can be abnormal if elevated) on the final report. A second approach would be to report

the range of normal based on $\pm 1.645 \times \text{RSD}$ for the PFT value. Finally, the z-score can be reported along with each PFT value. This last method is deceptively simple in that the interpreter only needs to remember that a z-score of -1.645 or less places the patient in the lowest 5th percentile, and is the same for every parameter for which the RSD is known. The z-score is already widely used for reporting pediatric pulmonary function results. Z-scores have recently been suggested as clinically valid replacements for the arbitrary % predicted values used to categorize severity of obstruction in COPD.⁵ Z-scores can also be related to the pretest probability that a disease such as asthma is present.⁶ Reports from PFT labs should implement one or more of these methods for presenting the patient's data in order to minimize the risk of misclassification and provide a scientifically sound basis for pulmonary function interpretation. ■

Acknowledgements

Figures 1 and 4 were provided courtesy of P. H. Quanjer MD (Erasmus University, Rotterdam); and Figure 3 was modified from Hankinson et al.³

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Noninvasive Support for Acute Respiratory Failure (HHFNC)

by Julie Jackson, BAS, RRT-ACCS, RCP

The use of noninvasive respiratory support has become widespread in the care of patients with acute respiratory failure. While the evidence demonstrates the strongest support for adult patients with COPD and congestive heart failure (CHF), there are other patient populations and disease processes that have shown benefit from its use as well.¹ Until recently, the delivery method for noninvasive support for patients with acute respiratory failure was through face mask ventilation. Delivering noninvasive support via face mask has several limitations that have left practitioners and the industry searching for alternative options to improve care and outcomes to patients with acute respiratory failure.

Limitations of face mask noninvasive support

Practitioners are often faced with the challenge of finding a way around the limitations of face mask support to provide care to their patients. Limitations with face mask ventilation include, avoiding pressure ulcerations, difficulty determining appropriate mask size, patient comfort, the patient's inability to effectively communicate with their care team, and the ability to provide adequate nutrition. The recent use of heated, high-flow nasal cannula therapy has helped practitioners overcome some of these limitations while still providing noninvasive respiratory support.

What is HHFNC?

Heated, humidified, high-flow nasal cannula (HHFNC) therapy provides noninvasive respiratory support that delivers a high inspiratory flow of medical gas to a patient through an interface intended to create a wash-out

of carbon dioxide from the nasopharyngeal and hypopharyngeal spaces. Delivered gas is heated to best match normal body temperature (37 C) and humidified to target ideal body saturation vapor pressure. The therapy is able to deliver oxygen at a FiO₂ of 0.21 to 1.0. The goal of HHFNC is to deliver an inspiratory flow that is sufficient to noninvasively meet or exceed the patient's inspiratory flow rate demands without having to place the patient on a face mask.

about the author...



Julie Jackson, BAS, RRT-ACCS, RCP, is the respiratory care and ECLS manager at Unity Point Health Des Moines, Des Moines, Iowa.

Mechanisms of action

Dysart et al² proposed in *Respiratory Medicine* in 2009, that there are five mechanisms of action as to how HHFNC works. These actions include:

- Washout of nasopharyngeal and hypopharyngeal dead space by using higher flow rates than traditionally used via a standard nasal cannula system. The theory is that if dead space is reduced, then alveolar ventilation will be a greater portion of the patient's minute ventilation.
- Providing inspiratory gas flow that is equal to, or greater than, the patient's peak inspiratory flow rate, reducing resistive work of breathing.
- Improving respiratory mechanics by breathing gas that has been warmed and humidified, thereby improving pulmonary compliance as compared to standard nasal cannula therapy where patients are often inspiring gas that is at ambient temperature and humidity.
- Reducing the metabolic cost of gas conditioning by warming and humidifying the gas and reducing the energy required for gas conditioning.

- Improving ventilatory mechanics when distending pressure is provided to the lungs. This in turn improves lung compliance and gas exchange. However, the delivery of this distending pressure is dependent on size of prongs, leak rate, and on the patient's mouth remaining closed.²

Benefits of HHFNC

The use of noninvasive support using HHFNC has benefits that help to overcome the limitations that practitioners may encounter with the use of face mask devices. The greatest benefits are patient comfort and compliance with the therapy while meeting patient ventilatory and oxygenation demands simultaneously. Using HHFNC therapy allows the patient to have the ability to communicate effectively with the care team and family members; allows the patient to receive adequate nutritional support without having to remove a face mask; and helps to optimize mucociliary clearance by providing humidification to the respiratory tract allowing for normal ciliary function.

Recent studies of HHFNC used in adult and neonatal populations

HHFNC therapy has been hypothesized to reduce the escalation of therapy in specific patient populations that exhibit certain clinical and demographic characteristics. Recent studies have been published looking at the use of HHFNC in particular populations of patients to support this hypothesis.

Frat et al³ looked at the use of HHFNC with patients experiencing acute hypoxemic respiratory failure. They enrolled 310 adult patients 18 years of age or older, in a multicenter randomized controlled trial comparing the use of HHFNC (n = 106), standard oxygen therapy using non-rebreather mask (n = 94), and noninvasive positive pressure ventilation with face mask (n = 110). The primary outcome was to look at the proportion of patients intubated at day 28. They also looked at secondary outcomes of all-cause mortality in the ICU and at 90 days along with the number of ventilator-free days at day 28. More than 60% of the study population carried a diagnosis of community acquired pneumonia. Results of the study demonstrated no statistically significant difference in the number of intubations amongst the three groups. However, the number of ventilator free days at day 28 was significantly higher and the 90-day mortality rate was significantly lower for those that were randomized to the HHFNC therapy group.³

Stephen et al⁴ conducted a multicenter, randomized controlled trial of 830 patients who developed acute re-

spiratory failure (ARF) following cardiothoracic surgery. ARF was defined as failure of a spontaneous breathing trial or successful spontaneous breathing trial but failed extubation or deemed at high risk for respiratory failure after extubation due to pre-existing risk factors. Study subjects were randomized to either HHFNC or noninvasive support using full face mask BIPAP. The primary outcome was treatment failure, which was defined as re-intubation, switch to another therapy, or premature discontinuation due to adverse events or patient request. Secondary outcomes were mortality during ICU stay, changes in respiratory variables or respiratory complications. The results of the study showed that HHFNC was not inferior to BIPAP noninvasive support; there was no difference in the ICU mortality rate of either therapy; there was significantly more skin breakdown in the BIPAP group at 24 hours compared to the HHFNC group; and the use of HHFNC therapy compared to intermittent BIPAP therapy did not result in a worsened rate of treatment failure. The authors of the study recommended that HHFNC be used in this patient population.⁴

In the October 2015 edition of the RESPIRATORY CARE, there were four studies⁵⁻⁸ published looking at the use of HHFNC in the Adult Intensive Care and Emergency Departments for patients with acute hypoxemic respiratory failure. Each of these studies compared HHFNC, traditional oxygen therapy, and noninvasive support using face mask interface. These studies found that the use of HHFNC therapy improved oxygenation and patient comfort compared to traditional oxygen therapy using the non-rebreather mask.⁵⁻⁸ They demonstrated that HHFNC was well tolerated by several patient populations and there were no adverse events for those using HHFNC. Gaunt et al also studied the timing of the application of HHFNC on patient outcomes, specifically incidence of adverse events during hospitalization, ICU and post-ICU stays.⁵ These results demonstrated that a delay to first HHFNC application was moderately associated with unplanned ICU admission and strongly correlated with the development of pulmonary infection. They also demonstrated that the subjects with greater length of time between ICU admission and first use of HHFNC had longer ICU and post ICU stays.⁵ In all of these studies, the authors recommended that HHFNC be considered as an alternative to conventional oxygen therapy and should be considered first line therapy in the ICU environment.

The application of HHFNC therapy as a means of noninvasive support in the neonatal population has become more commonly used throughout the majority of the NICU environments in the United States. Studies have been published in recent years looking at the ef-

fectiveness of HHFNC compared to nasal CPAP. One of these studies by Yoder et al, in the *Journal of Pediatrics*, found that HHFNC was as effective as nasal CPAP for noninvasive respiratory support and can be safely applied to a wide range of neonates.⁹

Based on recent studies published regarding the use of HHFNC in both the adult and neonatal population for noninvasive support of respiratory failure, practitioners should consider HHFNC as first line therapy compared to standard oxygen therapy in the ICU and emergency department environments. HHFNC may be considered for patients that are not tolerating noninvasive respiratory support via face mask due to the limitations discussed with face mask therapy. However, HHFNC should not delay invasive ventilation for patients with significant impending respiratory failure. It is imperative that practitioners look at each patient individually and determine the most appropriate therapy for each patient based upon established clinical goals. ■

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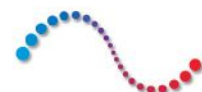
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The Better Part of Valor

by Anthony L. DeWitt, JD, RRT, FAARC

When I started as an OJT, back when dinosaurs roamed the earth, therapists and technicians did one thing: we followed orders. We had very limited discretion. Other than BCLS, and later, ACLS, protocols were not something therapists worked under, and as a result, our discretion was pretty much limited to either following an order or refusing to follow an order and requesting back up from a medical director.

With the large influx of school-trained clinical respiratory therapists, more and more institutions are letting therapists work under protocols. The key to the protocols is that they allow a therapist to determine, on the basis of her training and experience, whether to increase, decrease, or discontinue therapy based on the therapist's clinical assessment of the patient. But to work effectively, they require therapists gather sufficient information and document their approach to care.

Some hospitals have had growing pains with protocols. One physician confided that she doesn't like protocols because therapists in her institution simply use them to shed therapy and keep their workloads light, irrespective of whether the patient might benefit from the therapy. In other institutions, therapists have operated exactly the opposite, increasing therapy because they do not want to be downsized. No matter how perfect a set of protocols is designed, the human element always adds complications when it mixes with motives and self-interest. No set of protocols is foolproof because fools are an ingenious lot!

The key to protocols, however, is discretion, which the sages tell us is the "better part of valor." Discretion really is no more than informed decision-making based

on a limited set of choices, and the key to discretion is that it is never any better than the information gathered to inform those choices. Said another way: it's garbage in, and garbage out.

Up until recently, lawyers did not set their sights directly on therapists when they sued a hospital. Therapists, like medical lab techs, radiology techs, and LPNs

were thought of as the lowest rung of medical care, and unlikely to have significant assets. But as therapists increase their role and their visibility in the hospital, the risk is that this increased visibility will result in greater liability exposure.

Some will read the prior paragraph as an excuse not to invest in the training and planning that are required to implement protocols. Wise therapists and managers, however, will recognize that a well-written set of protocols actually reduces liability when it is combined with excellent documentation and proper medical oversight.

Every therapist who has practiced more than a year has had "that patient." The one who looked fine at 10:00 a.m. and by 2:30 p.m. had changed so much they didn't resemble the patient seen earlier. In the pre-protocol days, the 2:30 visit sparked a phone call to the physician, the delay between the call and the answer, the request for diagnostics, and the eventual order to

act. While Rapid Response Teams have shortened this window, institutions without protocols still do not have the best insurance against these kinds of patients becoming lawsuits: careful respiratory care professionals exercising professional discretion.

about the author...



Anthony L. DeWitt, JD, RRT, FAARC, is an attorney and a partner in the firm Bartimus, Frickleton & Robertson, PC, and resides in Opelika, AL. He has also published two books and numerous legal journal articles. This article is not a substitute for legal advice.

Wise therapists and managers will recognize that a well-written set of protocols actually reduces liability when it is combined with excellent documentation and proper medical oversight.

Protocols allow therapists to adjust the respiratory care and to take additional steps to keep a patient from sliding into the abyss. More rapid interventions usually result in better outcomes. Better outcomes usually prevent lawsuits.

However, sometimes, in spite of everything that can be done, patients die or suffer severe sequelae. Usually, this is a result of their disease process, or the accident that placed them in the hospital in the first place. Unfortunately, family members rarely understand this. When an angry family sues, the protocol becomes the document that the therapist is held accountable to, and the documentation written becomes the thing that either ensures the hospital pays a settlement or ensures that the patient goes home from court empty-handed.

Among the most vital things that a therapist can put in documentation is the accurate clinical description of the patient at any given time. In addition to vital signs, breath sounds, chest expansion, and all the other things therapists are taught to document, it is often wise to document not only the data, but also the therapist's assessment of that data. For example, changes in blood gas values between 11 a.m. and 2 p.m. should not only be noted, but the therapist should note that the CO₂ level has risen, or the pH has fallen. Any additional steps taken by the therapist (i.e., "worked on panic control.... Patient encouraged to purse-lip breathe...") should be noted.

Many times therapists get bad advice. People will tell them not to include their assessment of the data, but only the data. This because they believe that if the therapist makes an error in analyzing the data, that this error will be held against them.

But the law does not require a clinician to be perfect. It requires a clinician to be reasonable. If a reasonable interpretation of the blood gas data was that the patient was having some breathing difficulty that might be addressed through teaching and monitoring versus intubation, and the objective data support this analysis, then even if the patient later develops acute

respiratory failure, the analysis, while incorrect, was still reasonable. And although defense lawyers make millions suggesting the contrary, juries are usually willing to give medical professionals the benefit of the doubt when they are honest and sincere.

It is never reasonable, however, to simply rely on "the gut instinct" or subjective assessments based on what the patient looks like. While instinct and clinical experience do come into play in analyzing a patient's condition, they must be supported with clinical data. The person who writes "the CO₂ has risen but this just doesn't look like the guy I've been caring for all day," is likely going to have to explain that analysis based on something other than their "gut." If they do not include blood gas data, breath sounds, and other clinical data upon which they rely, the result will be an unhappy one.

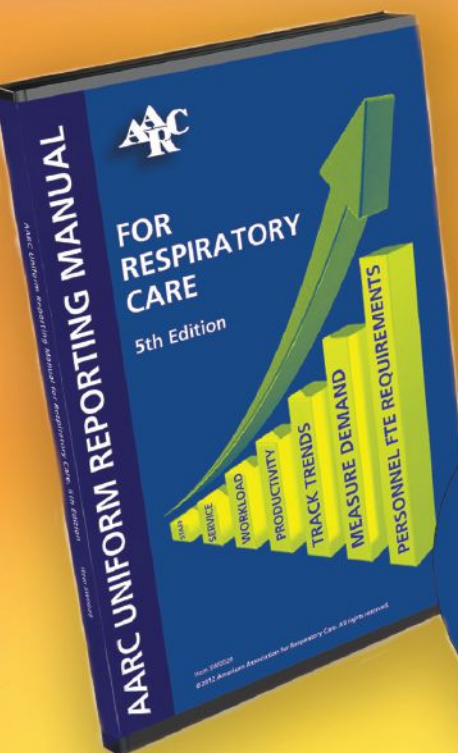
While more data is not always better data, the more data you have to support your clinical reasoning, the greater the likelihood that your approach will be seen as reasonable by a jury if, heaven forbid, the patient takes a sudden and unexpected turn for the worse.

Protocols are tools. They demand close patient observation and excellent documentation to support the exercise of a therapist's discretion. So long as that discretion to act (or not act) was reasonable based on the clinical data, the liability risk is relatively low. When therapists fail to gather sufficient information or fail to document the information they relied upon, that is where liability arises. No one ever gets into court and says, "Gosh, I wish I hadn't kept such good notes." ■



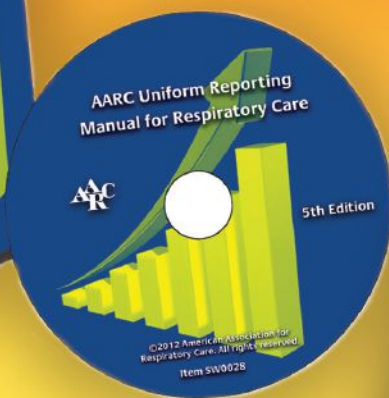
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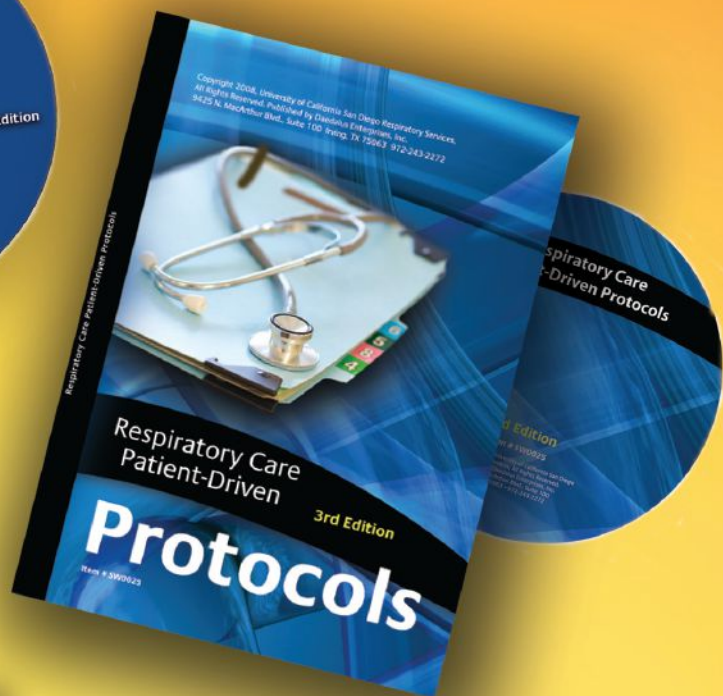
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“A Senseless Death”

Ed Salazar believes continuous monitoring could have helped to save his son's life.

by Debbie Bunch

It was late March, 2009, about 11 p.m., in Southern Florida. Christopher John Salazar had just finished his shift as a cook at a local restaurant. His dad, AARC member Ed Salazar, RRT, CPFT, RPSGT, had dropped him off earlier in the day because Chris, who had only recently moved back to town, had left his own car up in Central Florida with his girlfriend and their two little girls — six-year-old Tiana, Melissa's daughter from a previous relationship who Chris considered his own, and three-year-old Kiera.

Chris had recently been laid off from his job. After finding it difficult to find a replacement, he decided to move back in with Ed and his stepmother Carol and go back to work at a restaurant in Southern Florida where he'd worked a few years back. He fully believed it would just be for a short period of time as his family figured out their next move.

Ed texted Chris near the end of his shift to ask him if he had a ride home. “Yes, am good,” replied Chris, “love ya.” A friend was picking him up and they planned to hang out for a while and catch up. They were headed

home in his buddy's Chevy S10 pickup around 1:30 a.m. when the accident occurred.

“As they made a left hand turn at an intersection, they were hit by a car coming through the intersection from the opposite direction on the passenger side,” says

Ed. “From the force of the impact he sustained a severe blow to the right side of his forehead.” First responders were called to the scene and Ed says they did a great job establishing an airway and stabilizing Chris and his friend. Chris was then airlifted to the nearest trauma center.

Despite receiving what his dad thought at the time was the best care possible, despite getting off the ventilator in just 11 days, despite steady progress to recovery that buoyed the spirits of his extended family, 19 days later, Chris was pronounced dead in that very same trauma center ICU. What happened? Ed Salazar made it his mission to find out, and the journey he's been on for the past six years has led him to the firm conclusion that continuous CO₂ monitoring could have saved his son's life.

Medical errors all too often happen in hospitals, and many of them are difficult to foresee or prevent. But if Chris Salazar had been monitored with readily available technology after his tragic car accident, he most likely would still be alive today.

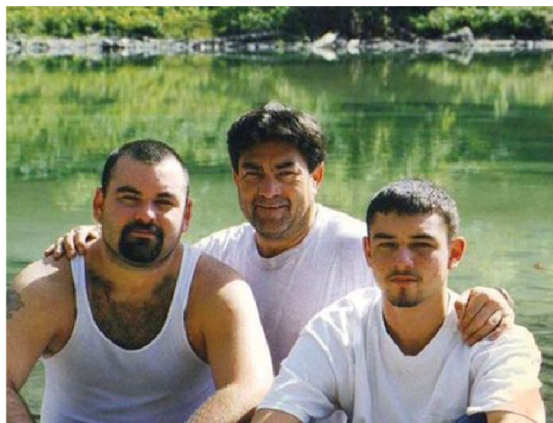
A most remarkable “unremarkable” man

In his humble way, Ed begins his stories of Chris by saying he wasn't a particularly remarkable person. That's true in some respects, but in others, Chris really was someone special. This young man, just 27 when he died, came into the world fighting for breath. In the delivery room, Ed and Chris's mom Kathy, a critical care nurse, watched in horror as their brand new baby slowly began to turn blue. None of the usual attempts to get him to breathe were working.

After the nurse anesthetist was unable to place an endotracheal tube, an anesthesiologist was paged to the delivery room, but his arrival was delayed. Turns out, he thought he was being paged to attend a high-risk delivery that was yet to take place — not care for an infant already in respiratory distress. Regardless, Chris was intubated and taken to a special care area in the newborn nursery, which was common back in the days before NICUs were commonplace in most hospitals. Although he was taken off the ventilator shortly thereafter, Ed wondered about the hypoxia he suffered after delivery and what it could mean long term. But he was thrilled to be taking Chris home to meet his big brother Brian. Soon he and Kathy were busy raising their two little boys.



Ed Salazar's son, Christopher John Salazar, lost his life at age 27.



Ed Salazar (center) has many wonderful memories of the time he spent in the great outdoors with Chris and his brother Brian (left), including this camping trip in Glacier National Park.



Chris, Kiera, Tiana, and Melissa were a happy family.

Fast forward a few years, Chris faced other challenges — speech difficulties and stuttering, and then when he started school, learning disabilities, including dyslexia. However, these problems didn't slow him down. He was an athletic kid, and Ed and Kathy — and later Ed's second wife Carol, also a critical care nurse — made sure he had plenty of opportunities to engage in the things he loved to do. The result: gold and silver medals in gymnastics and success on the soccer field. He enjoyed just about everything in the

great outdoors and regularly went fishing and camping with his dad and Brian. He also had a great relationship with his two older stepsisters, Jenny and Shawn.

Chris also figured out how to compensate for some of his difficulties, such as picking up sign language from the deaf children at the school he attended, and he amazed his dad by learning how to play chess and beating his father on a regular basis. Although school was a challenge, he graduated from high school and found his niche in the restaurant industry, where he was making more in tips and salary than most people he knew with a four-year college degree.

After Melissa and the girls came into Chris's life, he seemed well on his way to a happy and productive future despite having already faced more challenges than many of us will ever face.

Life changes in a heartbeat

The accident changed all of that. Ed recalls those first moments in the hospital, “Christopher was taken into the OR for insertion of an intracranial pressure bolt. This was sometime between five and six in the morning.” His facial injuries were extensive and would require surgery to repair. But Chris’s heart and lungs were strong, and within 48 hours, things already seemed to be looking up. Chris was able to squeeze his stepmother’s hand on command and give a thumbs up when requested. “Every day after that, he continued to show positive improvement,” says Ed.

Chris underwent the first of what were expected to be two facial surgeries on day six, and on day 11, physicians decided to remove him from the ventilator, though they left the trach he’d been given on day nine to alleviate the pressure on his face from the endotracheal tube and to facilitate airway management. He was on a continuous aerosol with an FIO_2 of approximately 28% and his pulmonary status was considered so good that by day 14 his pulmonologists signed off the case. “That was the day of his last ABG measurement until the one taken a few hours before he coded,” recalls Ed.

Something is wrong

It was April 9, about three in the afternoon, and Kathy was the first to notice something was wrong. Chris’s trach just didn’t sound right. With her years of experience as a critical care nurse, she heard it as soon as she crossed the threshold to his room. His oxygen saturation had dropped to 88% and staff in the

ICU had increased his oxygen to 100%. The blood gas was ordered and came back at Ph 7.45, PCO_2 50, PO_2 68, BiCarb 33, O_2 Hb Sat. 90.5, FIO_2 1.00. Chris was in tachycardia as well, with a heart rate of 130.

With more than 35 years in respiratory care, Ed suspected the problem had been going on for a while. “In spite of breathing 100% oxygen, his blood oxygen levels were low and the amount of carbon dioxide in his blood was high. The abnormal acid base balance, along with the persistent high heart rate, in my opinion, indicated that the problem existed for a significant amount of time,” he says. “At least 12 hours.”

A chest x-ray had been ordered to make sure the trach tube was in place, and results showed it was (it was an AP view only, no lateral view was taken). But when the respiratory therapist tried to bag and suction Chris, he lurched up in bed and turned bright red. A second attempt elicited no better results and Chris began turning blue. Ed hoped it was just a mucus plug that needed to be cleared or thought maybe the filter in the hose from the bag to Chris’s trachea was the problem. Neither appeared to be the case, and his own desperate attempt to bag his son while the RT was calling for anesthesia STAT and checking the oxygen and suction regulators on the wall was to no avail. “Nothing would go in,” he says. Perhaps most alarming was the development of subcutaneous emphysema, which indicated air was escaping under his skin rather than going into his lungs.



Chris and Brian took this picture with their mom, Kathy, at Brian’s wedding.

Soon the room filled with people and a full code blue was in progress. Ed and Kathy were ushered out of the room and into the hallway where they prayed for a miracle, but at 6:32 p.m., their beloved son was pronounced dead.

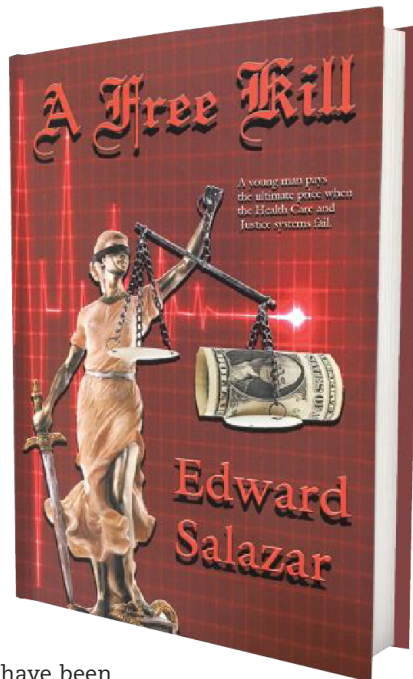
Continuous monitoring would have made a difference

Ed Salazar believes Chris died because the tracheal tube had become mal-positioned, partially blocking his son's airway. Whatever caused the problem had either been unobserved, or unreported. This led to a compensated respiratory acidosis that could have been detected by continuous monitoring of his ETCO₂ levels with technology that was readily available at his bedside, but without that monitoring it went unnoticed by the ICU staff.

He also believes the strong narcotics his son was on for pain and agitation played a role. His medical records showed that even though an order had been written to reduce the amount of morphine he received following being weaned from the ventilator, he continued to receive 22-39 mg of morphine plus 1-5 mg of Ativan per day, again without the benefit of continuous monitoring of his CO₂ levels.

"I believe that had a policy been in place mandating continuous end tidal CO₂ measurements for patients receiving IV narcotics, my son would be alive today," says his father.

In the years after Chris's death, Ed pursued a wrongful death case against the hospital, but a little known legal doctrine called "Sovereign Immunity," which basically prevents or seriously limits damages that can be awarded in cases involving government entities, including tax-supported hospitals such as the one where Chris was treated, made the case economically unviable.



Zero preventable deaths by 2020

Today, Ed is seeking to honor his son's memory through another route. As an active proponent of the Patient Safety Movement, which is working to bring health care organizations together with technology companies to help save lives, he's raising awareness of the types of situations such as the one that took his son's life.

"I believe that the Patient Safety Movement is the most powerful tool available to clinicians who are serious about reducing

and hopefully eliminating preventable deaths in their hospitals," says the RT. "This organization has a vast array of resources and an extensive network of practitioners devoted to employing cutting-edge technology and information for the purpose of achieving their goal of zero preventable deaths by 2020."

Hoping for better days ahead

Ed Salazar believes his son's death was needless and efforts like the Patient Safety Movement can make a difference. Chris's two daughters are still too young to understand why their father died, but when they are old enough, Ed has only one wish. "When the day comes that they want to know details of how their father died, I hope to be able to tell them that it was a tragedy that resulted from problems in hospitals that no longer exist." You can read more about the Chris Salazar case in Ed Salazar's book "A Free Kill," available at www.afreekill.com. ■

Now Available!



Current Topics in Respiratory Care

DVD Series for Team Development and Continuing Education

(2016 Series replaces the legacy Professor's Rounds Series)

Presented by the leaders in respiratory care, this series is designed to cultivate high-performing respiratory therapists who are equipped to educate patients and implement best practices. Participant earns 1 CRCE per program.

PROGRAM SERIES (8 DVDs)	INDIVIDUAL PROGRAMS
Order Item # CT2016S	Member \$89
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Earn Up to 8 CRCE

LEARN MORE ABOUT CURRENT TOPICS PROGRAMS:
<http://c.aarc.org/go/topics2016>

2016 - 8 DVD Series

PROGRAM 1

Infection Prevention: Translating Science into Practice *By Cheryl Hoerr, MBA, RRT, CPFT, FAARC*

PROGRAM 2

Preventing Post-Procedural Respiratory Depression *By Lori Conklin, MD*

PROGRAM 3

Controversies in Mechanical Ventilation: Low Tidal Volume Strategies *By J. Brady Scott, MSc, RRT-ACCS, FAARC*

PROGRAM 4

Palliative Care: Addressing Symptom Management in Pulmonary Patients *By Paul Selecky MD and Helen Sorenson MA, RRT, FAARC*

PROGRAM 5

Impact of Comorbid Conditions on Obstructive Sleep Apnea *By Karen Schell DHSc, RRT-NPS, RRT-SDS, RPFT, RPSGT, AE-C, CTTS*

PROGRAM 6

E-Cigarettes: The Science Behind the Smoke and Mirrors *By Nathan Cobb MD*

PROGRAM 7

Monitors: Improving Safety or Increasing Risk? *By Charles Durbin Jr., MD, FCCM*

PROGRAM 8

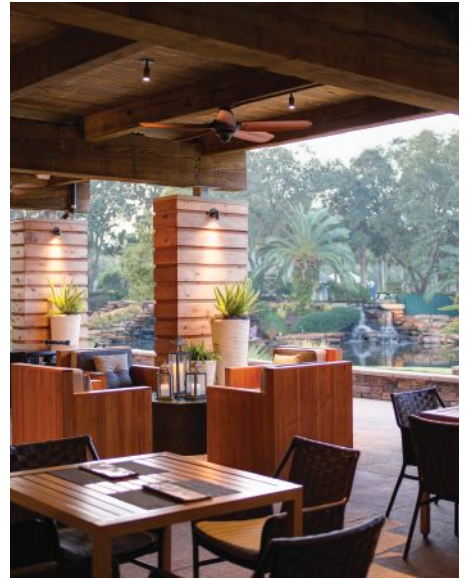
Disease Management and the Respiratory Therapist *By Timothy Myers, MBA, RRT-NPS, FAARC*



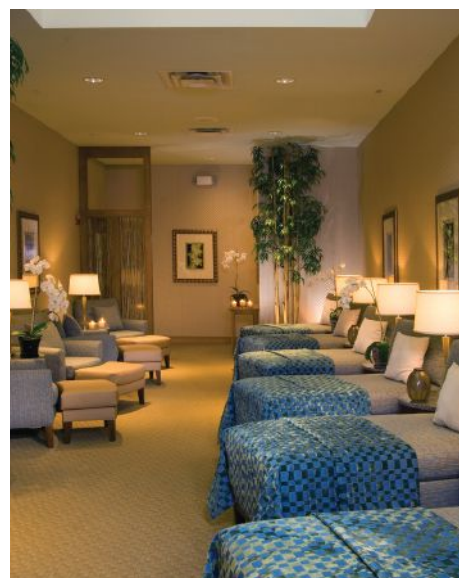


Life's a Beach
in Ponte Vedra, Florida!

New Summer Forum venue
promises fun in the sun



This year the AARC will convene the Summer Forum a few weeks earlier than usual — June 26-28 — and we'll be in a new location as well. Look through this story to see what this Florida resort town has to offer.





The cold winter chill still has a firm grip on most of the nation, but summer is not that far away, and if you're looking for a great place to team up continuing respiratory care education with a fun family vacation, our 2016 Summer Forum destination has everything you're looking for and more. For the first time, the Summer Forum is heading to Ponte Vedra Beach, FL, where we'll be met by 40-foot sand dunes, crystal clear waters, miles and miles of fresh water creeks and lagoons, and all the shopping, dining, and entertainment amenities we'd expect from a world-class venue.

Luxury awaits

Your Ponte Vedra Beach experience will begin with the meeting site itself — the beautiful Sawgrass Marriott Golf Resort & Spa. Luxurious guest rooms, coupled with fine dining onsite, ensure every comfort will be met, and with some of the best golf in the country and a beautiful private beach as part of the mix as well, you'll have no trouble finding ways to occupy your down time at Summer Forum.

While the famed Stadium Course (home of THE PLAYERS Championship) will be closed for renovations during our June 26-28 dates, the Dye's Valley Course will be open for business. Listed as one of the "Best Courses You Can Play in Florida" by *Golfweek* in 2011, the course features wide rolling fairways, larger greens, and water along all 18 holes. Experienced and

novice golfers alike will find plenty of challenges to keep everyone hitting the ball.

A short shuttle ride away from the resort along the white sands of Ponte Vedra Beach is the Marriott's Cabana Beach Club. With 26 miles of private beachfront plus oceanfront dining, you and/or your family can spend the whole day lounging on the beach and playing in the waves.

Wealth of attractions

But there's much more to Ponte Vedra Beach than just the resort. Located along Florida's historic coast, the area offers a wealth of attractions as well —

The World Golf Hall of Fame & IMAX Theater: With more than 35,000 square feet of museum space, two putting greens, a challenge hole, an 18-hole natural grass putting course, and a golf simulator, golf lovers will be in heaven here. Exhibits showcase the evolution of the game and celebrate its greatest players, and the World Golf Village offers a range of dining and shopping options. Boasting the largest IMAX 3D digital screen in the southeast, the theater features a variety of educational and entertaining movies — including the latest Hollywood blockbusters. www.worldgolfhalloffame.org

The Ponte Vedra Concert Hall: Located in the heart of Ponte Vedra Beach, this performing arts facility features national and international performing artists throughout the year. Check their website

to see who will be there during our dates in June. www.pontevedraconcerthall.com

The GTM Research Reserve: Dedicated to the conservation of natural biodiversity and cultural resources in the estuary formed by the Guana, Tolomato, and Matanzas Rivers, the GTM Research Reserve provides long-term weather, water quality, and biological monitoring, along with opportunities for scientists and students to study the area in a “living laboratory” setting. But the reserve has much to offer visitors as well, including an environmental education center, outdoor guided hikes and activities, educational presentations, and some of the best kayaking in the area. www.gtmnerr.org

St. Augustine, FL: Just a 36-minute drive down the A1A Scenic and Historic Coastal Byway, St. Augustine offers visitors the chance to see the oldest city in the United States, founded in 1565 by Spanish explorers 55 years before the pilgrims landed on Plymouth Rock. With its cobblestone streets, the historic district is filled with quaint cafes and shops, and significant landmarks like the Castillo de San Marco, Lightner Museum, Flagler College, and Fort Matanzas offer a sense of the area’s history. Other attractions range from the St. Augustine Distillery, housed in Florida’s

first ice manufacturing plant, to the award-winning St. Augustine Amphitheatre, to the St. Augustine Alligator Farm, which now features four albino alligators. You’ll get the chance to get up close and personal with pirate booty in the St. Augustine Pirate and Treasure Museum, and Ponce de Leon’s Fountain of Youth, the original site of the city, is not to be missed. www.floridashistoriccoast.com

Great food awaits

Of course, one of the best things about attending any AARC meeting is the chance it offers to network



St. Augustine's City Hall and the Lightner Museum

with your peers in friendly and casual settings. Sharing some great food with colleagues is always one of the best ways to do just that, and Ponte Vedra has many great restaurants where you can make it happen. Here are just a few —

619 Ocean View: With breathtaking views of the Atlantic Ocean, this restaurant at the Marriott's Cabana Beach Club offers fresh seafood, grilled steaks, and nightly specials. 1000 PGA Tour Boulevard, Ponte Vedra Beach, (904) 285-6198

TPC Sawgrass: The clubhouse at the famed course features an array of dining options serving breakfast, lunch, and dinner. 110 Championship Way, Ponte Vedra Beach, (904) 273-3238

Ruth's Chris Steak House: USDA prime steaks are the focus here, along with locally sourced produce. 814 A1A North, Ste 103, Ponte Vedra Beach, (904) 285-0014

Palm Valley Fish Camp: Fresh seafood, amazing views, and favorite entrees make this the place locals come to for a getaway feeling right at home. 299 North Roscoe Rd., Ponte Vedra Beach, (904) 285-3200

Restaurant Medure: A fusion of classic and modern cuisine in a relaxed and refined setting makes this establishment the perfect place for a night out. 818 A1A North, Ponte Vedra Beach, (904) 543-3797

Trasca & Co Eatery: A great place to grab a sandwich for lunch or enjoy a casual dinner. Specialty of the house: the Panino (billed as a “craveable creation eaten like a rolled-up sandwich”). 155 Tourside Dr., Ponte Vedra Beach, (904) 395-3989

Aqua Grill: This award-winning eatery features eclectic American cuisine in an atmosphere of casual elegance. 950 Sawgrass Village, Ponte Vedra Beach, (904) 285-3017

Poppy's Italiano: Classic Italian dishes — including specialty pizzas — are featured here. 832-1 A1A North, Ponte Vedra Beach, (904) 273-7272

Your recharging station!

The AARC Summer Forum promises to deliver the information you need to remain on the cutting edge in your department and program. Ponte Vedra Beach will deliver as well — in this case, the relaxing venue you and your family need to recharge your professional and personal batteries for the rest of the year to come. You can learn more about this wonderful beach resort town at <http://www.floridameetings.com/en-us/cities/ponte-vedra-beach.html>. We'll see you at Ponte Vedra Beach June 26-28 for AARC Summer Forum 2016! ■



Cabana Beach Club

2016 AARC Summer Forum Program



Ponte Vedra, FL



2016 AARC Pre-Summer

Saturday, June 25

Ponte Vedra, FL

NATIONAL BOARD FOR RESPIRATORY CARE (NBRC)

7:30 am – 10:30 am

Scoring Responses to the NBRC Simulation Examination

**Robert C Shaw Jr PhD RRT FAARC,
NBRC Assistant Executive Director**

After a brief introduction and instruction, participants will work in small groups. Each group will decide how responses to a simulation problem should be scored to best assess minimum competency for an RRT. Groups will have access to representatives from the NBRC who can offer guidance.

COMMISSION ON ACCREDITATION FOR RESPIRATORY CARE (CoARC)

12:00 noon – 2:00 pm
Meet the Referee

This session is an opportunity for program personnel and administrators to meet with their program referees on an individual basis to discuss:

- Recent changes to CoARC policies, procedures, and documentation involving the referee process;
- Interpretation of the new CoARC accreditation standards;
- What is recommended for improvement of the institution or program, including any progress reports; and
- How to communicate appropriately and effectively with their program referee and executive office staff.

Attendance for this session is on a first-come, first-served basis and attendees are required to pre-register with CoARC by contacting Shelley Christensen at shelley@coarc.com.

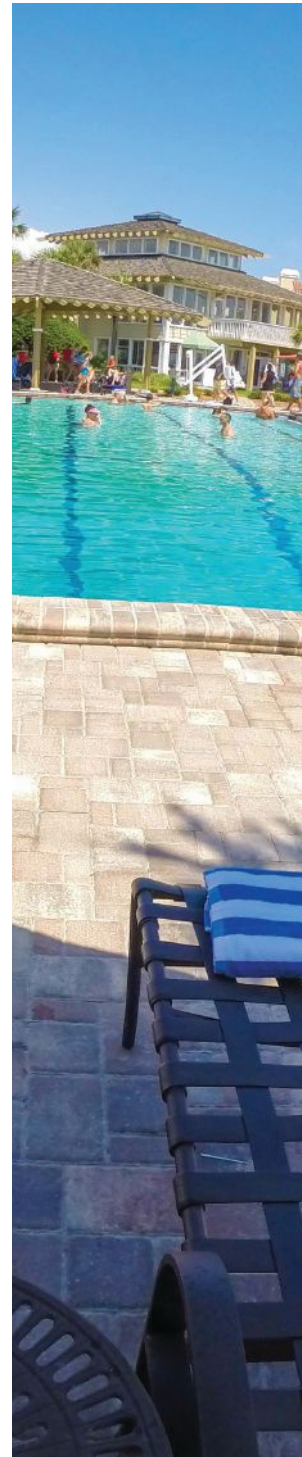
AMERICAN ASSOCIATION FOR RESPIRATORY CARE (AARC) Pre-Course

1:00 pm – 4:55 pm

Course capacity is limited. Pre-registration is required. Deadline: Friday, May 27, 2016, or when course is full. Approved for 3.49 hours of continuing education credits (CRCE). You must attend the entire course to receive CRCE credit; no partial credit will be awarded.

Focus on the Future: Maximizing Program Effectiveness

Effective respiratory care programs must optimize many variables in order to achieve a high degree of success. Among them are: developing the faculty; cultivating caring, compassionate and service-oriented students, employing examinations that are meaningful and in concert with professional standards; optimizing the talents and influence of the program's communities of interest, and developing and adopting a curriculum that addresses the needs of the future RT. Come join us as we provide a pre-course designed to assist you in addressing these variables to maximize your program effectiveness.



Forum Program

1:00 pm – 1:30 pm

Academic Advancement: Cultivating Program Faculty

**Bill Galvin MSEd RRT CPFT AE-C FAARC,
Gwynedd Valley PA**

While an RT program faculty member is exceedingly busy with day-to-day teaching, administrative responsibilities, and clinical assignments, it is imperative that he/she invest the time and effort for personal and professional growth and development. Consideration of one's academic advancement and career enhancement is not without merit. It should be an integral part of his/her professional goals and developmental plan. It is not uncommon for program faculty to dedicate their time exclusively to their students and to institutional responsibilities. This presentation will address the criticality of developing an academic advancement plan and striving to achieve promotion to professorial rank, achievement of tenure, committee involvement, scholarship, and service. Additionally, it will identify criteria for advancement and the multiple ways to actualize your plan.

1:35 pm – 2:25 pm

Correlating Educator-Developed Tests to NBRC Test Scores

**Robert C Shaw Jr PhD RRT FAARC,
NBRC Assistant Executive Director**

Examinations serve multiple purposes: one is to accurately evaluate student knowledge; another is to prepare the student for post-graduation board examinations. In this session, the presenter will demonstrate how a teacher-created examination can be designed to yield a correlation. This session also includes a hands-on experience for learners to apply the knowledge.



2:25 pm – 2:35 pm

Break

2:35 pm – 3:25 pm

Beyond Volunteerism: Engaging Students in Learning Through Service

**Sarah L Varekojis PhD RRT,
Columbus OH**

Effective service learning can provide significant benefits to the student, the faculty, and the community. This presentation will provide a foundation for developing effective and engaging service learning activities. Participants will have the opportunity to develop and/or evaluate their own service learning components to incorporate best practices.



Galvin, Bill



Shaw, Robert



Varekojis, Sarah

AARC Pre-Summer (continued)

Saturday, June 25

Ponte Vedra, FL

3:30 pm – 4:20 pm

Optimizing Communities of Interest

**Kathy Rye EdD RRT-ACCS FAARC,
Little Rock AR**

Respiratory care programs are guided not only by current science but by the needs of the community, including employers, advisory committees, students, and graduates. This presentation will identify the community of interest for a respiratory care program and discuss how to best engage this community for maximal outcomes. The participants will also have an opportunity to develop an engagement strategy for their own unique community of interest.

4:25 pm – 4:55 pm

Transitioning from an Associate to a Bachelor Degree: Learning from Experience

Fred Goglia MEd RRT, Seattle WA

This presentation will explore the phenomenon of transitioning a program from the associate degree to the bachelor degree. The presenter has successfully transitioned their associate programs to the bachelor's degree and will share their experiences and insights to assist interested programs in preparing for the degree transition.

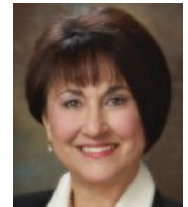
AMERICAN ASSOCIATION FOR RESPIRATORY CARE (AARC)

5:00 pm – 6:30 pm

Welcome Reception

Stressed from a long day of travel? Apprehensive that it's your first Summer Forum and you aren't sure what to expect? Or perhaps you're just eager to reconnect with old friends? Regardless, you'll not want to 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. Interact with leadership from the AARC, CoARC, and NBRC. There's no better way to kick off 3 days of learning than by attending this opening event. Attendance is limited to registered attendees only.

Trustees from the American Respiratory Care Foundation will be in attendance to raise awareness about the mission and vision of the ARCF and answer your questions.



Rye, Kathy



2016 Summer Forum

Sunday, June 26 | Ponte Vedra, FL

See pages 48-51 for registration form and fees, hotel reservation information, and travel discounts. Approved for up to 15.88 hours of continuing education credit (CRCE).



GENERAL SESSION

7:30 am – 8:20 am

Douglas S Laher MBA RRT FAARC
AARC Associate Executive Director/
Presiding

The State of the Profession

Frank R Salvatore Jr MBA RRT FAARC,
Danbury CT

In this Keynote Address, President Salvatore will update the audience on the goals, priorities, and strategic focus of the Association in 2016. Attend this presentation and better understand the current and future direction of the profession and notably the AARC's endorsement of moving to a bachelor's degree for entry into practice. This is your opportunity to hear from the president of the AARC regarding topics that are important to you!

EDUCATOR TRACK

8:30 am – 3:40 pm

Ellen A Becker PhD RRT-NPS FAARC
Chair, AARC Education Section/
Presiding

8:30 am – 9:10 am

Open Your Eyes to Your Blindspots

Crystal Dunlevy EdD RRT,
Columbus OH

Are you able to assess your patients, co-workers, and students in a fair and accurate way? This presentation will address hidden biases that we all possess based on a lifetime of experience and exposure. Implicit bias and the impact it can have on patient care and daily interactions will be discussed; Mechanisms for reducing implicit bias will be presented.



Salvatore, Frank



Dunlevy, Crystal



2016 AARC Summer

Sunday, June 26

Ponte Vedra, FL (cont.)

9:15 am – 9:55 am

Teaching Mechanical Ventilation in the Writing Intensive Format: Can It Be Done? Should It Be Done?

Jennifer Keely MEd RRT-ACCS, Columbia MO

Regardless of whether a program is an associate's or baccalaureate level, they all have the same goal of producing graduates who are safe, effective respiratory care practitioners. Traditional teaching and assessment tools, which often utilize multiple-choice and short-answer format, do not require students to write reflectively about course content. This session will describe the rewards and pitfalls of transitioning a mechanical ventilation course to the writing intensive format, with an emphasis on the use of writing to learn assignments.

10:00 am – 10:40 am

Tell Me What You Learned Today?

Linda Lair MS RRT RPFT, Columbia MO

This presentation will discuss the merits of reflective writing assignments as part of the students' clinical education. The presenter will highlight the structure and goals of a reflective writing assignment as well as provide samples of said assignments and a grading rubric.

10:40 am – 11:20 am

Exhibitor Break

11:20 am – 12:00 noon

Performance Summary for the New Simulation Examination

Robert C Shaw Jr PhD RRT FAARC, NBRC Assistant Executive Director

Information from more than a year of examination administration will be summarized with the intent to reveal strong and weak performance areas.

12:05 pm – 12:45 pm

Give Me Two Hours, and I'll Give You Sensitivity Training!

Crystal Dunlevy EdD RRT, Columbus OH

Respiratory therapy faculty would undoubtedly love to graduate students who are effective communicators with all patient groups, including the underserved and vulnerable. The reality is that many students have not had exposure to or experience with these populations, and there is no room in the curriculum to include sensitivity training. This presentation will outline a method for improving sensitivity and reducing implicit bias through two hours of interactive training.



Keely, Jennifer



Lair, Linda



Shaw, Robert



Dunlevy, Crystal



12:45 pm – 2:15 pm

Lunch (on your own)

2:15 pm – 2:55 pm

Tenure and Promotion in the University Setting – Are You Prepared?

**Robert L Joyner Jr PhD RRT-ACCS
FAARC, Salisbury MD**

Increasingly, respiratory care educators are seeking employment at universities that have traditional promotion and tenure opportunities for their faculty. These opportunities can be difficult to navigate and the requirements are frequently foreign to respiratory care educators. This lecture will provide attendees important information about how to be successful at navigating this process and reduce the ever-present anxiety that comes with this career path.

3:00 pm – 3:40 pm

Tell Me Something I Should Know... Faculty Development

**Ellen A Becker PhD RRT-NPS FAARC,
Chicago IL**

**Bill Galvin MEd RRT CPFT AE-C
FAARC, Gwynedd Valley PA**

**Lynda Goodfellow EdD RRT-ACCS
AE-C FAARC, Peachtree GA**

Respiratory therapy program faculty are often very skilled educators and place a high priority on ensuring student success. However, program faculty need to also focus on their own development to ensure they are able to have successful careers in education. This lecture will focus on development of a successful academic portfolio, research program, and mentorship support system.

MANAGER TRACK

8:30 am – 3:40 pm

**Cheryl A Hoerr MBA RRT FAARC
Chair, AARC Management Section
Presiding**

8:30 am – 9:10 am

Stop Focusing on Volume and Cost!

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

We've been hearing it for years now: quality care is lower cost care. Why then do we continue to focus our efforts on maintaining volume and cutting costs, emphasizing productivity and cutting staff, and making purchasing decisions in large part on the basis of cost? Respiratory managers should be focusing on overuse of useless and ineffective care while streamlining department processes to eliminate or minimize waste. The manager for the future must learn to emphasize safety, quality, patient outcomes, and patient experiences in order to successfully position their department in the new health care environment.



Joyner, Robert



Becker, Ellen



Galvin, Bill



Goodfellow,
Lynda



Hoerr, Cheryl



2016 AARC Summer

Sunday, June 26

Ponte Vedra, FL (cont.)

9:15 am – 9:55 am

Business Planning

**Garry W Kauffman RRT FAARC MPA
FACHE, Winston-Salem NC**

This presentation will provide the essential elements included in a business plan; a template for attendees to utilize to manage their projects/business plans, and a checklist that attendees can use to ensure that their business planning process results in a successful outcome. The template and checklist will be provided as attachments for registered attendees.

10:00 am – 10:40 am

Who's Liable?

**Laura Hartman BS RRT-NPS,
St. Petersburg FL**

**Anthony DeWitt JD RRT FAARC,
Jefferson City MO**

Before department managers can engage their staff, the managers themselves must be engaged with their organization and their own work. This presentation will share techniques for managers to increase their own engagement, and in doing so, provide a role model for success to their staff.

10:40 am – 11:20 am

Exhibitor Break

11:20 am – 12:00 noon

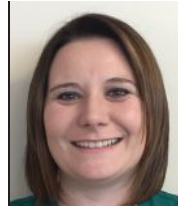
Fostering Professional Volunteerism in the Respiratory Therapist

**Sarah L Varekojis PhD RRT FAARC,
Columbus OH**

Many colleges and universities require students to complete community service as a graduation requirement. In addition, many professions and organizations rely on volunteers to accomplish at least part of their mission, and respiratory therapy is no different. Both the Baby Boomer generation and the Millennial generation value involvement and civic duty, and leaders in RT can learn to foster professional volunteerism across the continuum from student to employee.



Kauffman, Garry



Hartman, Laura



DeWitt, Anthony



12:05 pm – 12:45 pm

Sunrise, Sunset: Onboarding, Managing Up, and Managing Out

**Anthony L DeWitt JD RRT FAARC,
Jefferson City MO**

With the dramatic changes and challenges within the health care industry, what is seen as the most important element of success and failure is the ethics, behavior, quality, and professionalism of the employees. This presentation will focus on how managers can make the best decisions to hire the "right" RTs; how to manage them appropriately and individually without losing the common expectations of the department and organization; and when necessary, how to best "manage out" the employee who can't fulfill the demands of the position.

12:45 pm – 2:15 pm

Lunch (on your own)

2:15 pm – 3:40 pm

Making the Right Hire... And Keeping Them

2:15 pm – 2:55 pm

Hiring to Fit Your Service Expectations

Charles Bangley BS RRT, Greenville NC

How do you customize your interviews to assure you have the right person? What specific skills or knowledge level are you looking for; and how do you test for these in an interview? This presentation will discuss these questions and encourage open dialogue and interaction during the session. This interactive session will leave employees with a hiring tool they can take back to their hospital and customize for their own use.

3:00 pm – 3:40 pm

Retaining Staff Through an Integrated Performance Evaluation Tool

Charles Bangley BS RRT, Greenville NC

We all dread the annual performance evaluation process. For many staff members, it's a meaningless process that is nothing more than a rite of passage for their annual salary increase. But there is a beneficial purpose to performance appraisals if we're just willing to take the time to understand why. This session will review a performance evaluation system that was developed by respiratory care staff members and leaders. This process has now been accepted by other service lines in our institution and is tied to the mission, vision, and values of the organization. When combined with performance metrics, quality, safety, and operational goals, staff is better able to understand their impact with patients and the hospital as a whole... so much so that staff members actually look forward to their performance appraisal. Attendees will leave this lecture with a template and understanding of how to create a similar evaluation tool that is aligned with their own organization.



Bangley, Charles



2016 AARC Summer

Monday, June 27

Ponte Vedra, FL

GENERAL SESSION

7:30 am – 8:20 am

Research for Newbies – Come On In, The Water’s Fine!

Cheryl A Hoerr MBA RRT FAARC, Rolla MO

Diane Oldfather MEd RRT, Rolla MO

Research can be a scary thing when you have no experience with the process. We will discuss what transpired when we took the leap and developed a beginner’s research collaborative consisting of credentialed therapists working at a community hospital and respiratory therapy students just learning the research process. Challenges and successes of this joint venture will be shared from the manager and educator perspectives. Join us for the unveiling of process outcomes.

EDUCATOR TRACK

8:30 am – 3:40 pm

Ellen A Becker PhD RRT-NPS FAARC Chair, AARC Education Section Presiding

8:30 am – 9:10 am

Fostering Research Skills Across Degree Programs

Ellen A Becker PhD RRT-NPS FAARC, Chicago IL

Respiratory therapists need basic research skills in their daily clinical practice and require more skills as they advance up career ladders. This presentation recommends a framework for the

appropriate research skills to teach in entry-level associate and baccalaureate degree programs, advanced degree programs, and graduate programs.

CoARC SYMPOSIUM

9:15 am – 9:55 am

Use of Curriculum Mapping in Program Assessment and Evaluation

Pat Munzer DHSc RRT FAARC, Topeka KS

A successful tool that programs may use to evaluate the integration of the competencies and the curriculum as a whole is a curriculum map. Curriculum mapping is generally used to evaluate an existing curriculum or to create a new curriculum. Curriculum maps also provide programs with a tool to facilitate continuous curricular evaluation and identify potential areas for improvement.

10:00 am – 10:40 am

Developing and Applying Rubrics To Improve Student Performance

Christine Hamilton DHSc RRT, Nashville TN

Rubrics give a roadmap to students on how to meet the instructor’s (and programmatic) expectations. By developing rubrics, standards of performance are delineated giving students a clear picture of how to succeed. This presentation will describe the steps in developing a detailed rubric and will invite participants to develop a sample rubric.



Hoerr, Cheryl



Oldfather, Diane



Becker, Ellen



Munzer, Pat



Hamilton, Christine



10:40 am – 11:20 am
Exhibitor Break

11:20 am – 12:00 noon
Evaluating Student Competencies – Lessons Learned From the Medical Profession

Allen N Gustin Jr MD FCCP, Chicago IL

Calls by the public and policymakers for increased transparency and accountability as well as heightened consumerism have all influenced the shift to a competency-centered, outcomes-based approach to accreditation and the emphasis for accreditors to focus their standards on assessing the degree to which the professions are creating a skilled, competent, and globally competitive workforce. The Accreditation Council for Graduate Medical Education (ACGME) began its general competency and outcome initiative in 1998. This initiative, called the Outcome Project, requires that U.S. graduate medical education programs foster resident physicians' development of competencies in six domains and collect performance data that reliably and accurately depicts residents' ability to care for patients and to work effectively in health care delivery systems. This presentation will describe the successes and challenges that medical education faced in implementing this reform and the lessons that can be learned by the respiratory care profession.

12:05 pm – 12:45 pm
Developing a Plan of Action Based Upon the Therapist Multiple Choice Exam Results

Shane Keene DHSc MBA RRT-NPS CPFT RPSGT FAARC, Cincinnati OH

This presentation is designed to help faculty understand the NBRC school summary outcomes data and facilitate a working action plan to improve areas where deficiencies may exist.

12:45 pm – 2:15 pm
Lunch (on your own)

EDUCATION SECTION MEMBERSHIP MEETING

2:15 pm – 2:55 pm
Ellen A Becker PhD RRT-NPS FAARC 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.



Gustin, Allen



Keene, Shane



2016 AARC Summer

Monday, June 27

Ponte Vedra, FL

3:00 pm – 3:40 pm

Teaching Acid-Base Interpretation: What Is the Best Approach?

Doug Pursley MEd RRT-ACCS FAARC, Springfield MO

Simplified approaches for teaching acid-base balance such as the "arrow method" the "tic-tac-toe" approach, or stepwise processes may not always result in a correct interpretation. This presentation will discuss common methods for teaching acid-base balance and offer an alternative, comprehensive approach that is physiologically-based resulting in greater accuracy.

MANAGER TRACK

8:30 am – 3:40 pm

Cheryl A Hoerr MBA RRT FAARC Chair, AARC Management Section / Presiding

8:30 am – 9:10 am

Overview of Disease Management

Timothy Myers MBA RRT-NPS FAARC, Irving TX

This presentation will identify the key components to a comprehensive disease management program and discuss the necessary skills of an effective disease manager working with patients that have chronic respiratory conditions.

9:15 am – 9:55 am

How Much Does That Cost? Acquiring New RT Equipment

Judy Schloss BS RRT-NPS AE-C, Minneapolis MN

One of the biggest investments to make in an RT department is the proper training of employees and to equip them with the right tools to succeed in doing their job. As we move away from fee-for-service and volume-based measures towards accountable-care organizations and quality-based measures, we must also consider this in the purchase of new equipment in the respiratory care department. The speaker will discuss effectiveness, efficiency, and outcomes to show where the true cost savings can be attained in optimizing purchases.

10:00 am – 10:40 am

From Good to Great: Motivating Staff To Achieve Department Goals

Shawna Strickland PhD RRT-NPS RRT-ACCS AE-C FAARC, Irving TX

Respiratory care departments are constructed of RTs with varying personalities. Motivating the entire staff to achieve the common organizational goal may be difficult if the RT manager is not in tune to the different needs of the staff. This presentation will discuss motivational theories in context with leadership theories to assist the RT manager in developing a strategy to motivate each RT on staff.

10:40 am – 11:20 am

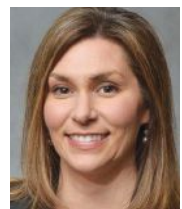
Exhibitor Break



Pursley, Doug



Myers, Timothy



Schloss, Judy



Strickland, Shawna



11:20 am – 12:45 pm

Shining the Light on Research at the Bedside

Cheryl A Hoerr MBA RRT FAARC, Rolla MO

Diane Oldfather MEd RRT, Rolla MO

One of the strategic goals of the AARC is to encourage Respiratory Therapists to engage in research. This means that research cannot be confined to universities and tertiary medical centers. Good research protocols can be developed and implemented in any sized hospital, RT department, or program of study. Health care is changing and becoming increasingly complex, which means that the old way of doing things just doesn't cut it anymore. Change generates questions and finding the answers to those questions requires research. With the proper planning, managers can guide staff through the process of defining the right questions to ask, identifying the gaps, and developing a good research protocol to bridge those knowledge gaps. This workshop will provide a roadmap for respiratory managers who are interested in developing a research program within their department. We will provide you with a template to guide you through the start-up process of team member recruitment, research question development, the data-gathering process, data analysis, and reporting. When we are finished you will know where to start and when you have arrived.

12:45 pm – 2:15 pm

Lunch (on your own)

2:15 pm – 3:40 pm

Leading the Way – Creating a Culture of Accountability

Rebecca Caputo MSODA, Weston FL

Bryan Leatherwood MHA RRT FAARC, Weston FL

In today's complex health care environment it is critical that caregivers at all levels of your organization are accountable to high standards of care and a positive patient experience. Please join us for this fast-paced, engaging workshop to explore how to create a culture of accountability where everyone promotes responsibility, ownership, and mutual accountability. This session will present a model of building accountability at every level, beginning with you. We will explore the three stages of an accountability cycle and why each component is critical to success. We will also examine the leader's role in creating this highly-accountable culture through clearly defined expectations and agreements. Most importantly, we will share a case study of how one leader took a disengaged department and created a highly-engaged team resulting in amazing outcomes.



Hoerr, Cheryl



Oldfather, Diane



Caputo, Rebecca



2016 AARC Summer

Tuesday, June 28

Ponte Vedra, FL

GENERAL SESSION

7:00 am – 7:55 am

Agency Update!

Frank Salvatore Jr MBA RRT FAARC – AARC President

Michael T Amato MBA– ARCF Chair

Bradley A Leidich MEd RRT FAARC– CoARC President

Robert L Joyner Jr PhD RRT-ACCS FAARC – NBRC President

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

EDUCATOR TRACK

8:00 am – 12:15 pm

Ellen A Becker PhD RRT-NPS FAARC Chair, AARC Education Section/ Presiding

Jimmy A Young Memorial Lecture

Presented by the National Board for Respiratory Care

8:00 am – 9:30 am

How Does the NCCA Affect My Ability To Educate, Hire, and Retain Therapists?

Robert C Shaw Jr PhD RRT FAARC, NBRC Assistant Executive Director and Psychometrician

The NBRC submits its credentialing programs for NCCA accreditation. The session will describe the origins of NCCA and the ongoing goal behind accreditation. Revised accreditation standards go into effect in 2016. Highlights from these standards will be discussed.

9:30 am – 9:45 am

Break



Salvatore, Frank



Amato, Michael



Leidich, Bradley



Joyner, Robert



Shaw, Robert



9:45 am – 10:25 am

Ten Things You Can Do with a Plexiglass Box and a Set of Pig Lungs

**Doug Pursley MEd RRT-ACCS FAARC,
Springfield MO**

Simulation modeling has the capacity to involve students in a more profound level of learning as opposed to just hearing a lecture and memorizing material for an exam. This presentation will show participants how to construct a plexiglass lung-thorax model and demonstrate ten learning activities ranging from teaching simple mechanics of breathing to measuring optimal PEEP guided by esophageal manometry.

10:30 am – 11:10 am

Working Together To Ensure Consistent Student Evaluation

**Sarah L Varekojis PhD RRT FAARC,
Columbus OH**

Ensuring consistent student evaluation by preceptors in clinical environments is an important concern for RC program faculty. Preceptor training programs can be used to improve inter-rater agreement by determining needed areas of improvement.

Dr Fred Helmolz Education Lecture Series

Presented by the Commission on Accreditation for Respiratory Care

**Christine Hamilton DHSc RRT/
Presiding**

11:15 am – 12:15 pm

Meeting Thresholds and Maintaining an Excellent Respiratory Care Program

**Gary White MEd RRT RPFT FAARC,
Spokane WA**

The most common substantive change on applications submitted to the Commission on Accreditation for Respiratory Care (CoARC) are changes in program director (15%) or director of clinical education (23%). Many of these key personnel are new to the position and new to the responsibilities required of the position. This presentation will describe the key responsibilities and roles of the program director and director of clinical education. Practical examples will be provided to assist those new to these positions in the maintenance of an excellent respiratory care program.



Pursley, Doug



Varekojis, Sarah



2016 AARC Summer

Tuesday, June 28

Ponte Vedra, FL

MANAGER TRACK

8:00 am – 12:15 pm

Cheryl A Hoerr MBA RRT FAARC
Chair, AARC Management Section/
Presiding

MANAGEMENT SECTION MEMBERSHIP MEETING

8:00 am – 8:30 am

Cheryl A Hoerr MBA 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.

8:35 am – 9:15 am

Integrating Millennials into Your Department or Classroom

Douglas Laher MBA RRT FAARC,
Irving TX

This lecture will discuss the characteristics of today's millennials... what makes them tick, what they want out of their career, their colleagues and their employer. Whether it's in the classroom or the break room, millennials will be forced to integrate with Gen X and Baby Boomers. How do you do this and how can you be successful? You'll have to attend this TED Talk-style of presentation to find out. No slides will be used for this lecture... the lecturer will be "walking a tight rope without a net"!

9:15 am – 9:30 am

Break

9:30 am – 10:10 am

Using an Automated Volume- Based Staffing Protocol to Guide Staffing Decisions

Dave Crotwell RRT-NPS FAARC,
Seattle WA

This lecture will explain and discuss how volume-based staffing protocols can help department leaders make well-informed RT staffing decisions for their hospital.

10:15 am – 10:55 am

A Transformational Journey to Survival in a Value-Based Healthcare System

Robert Miller BS RRT, Tampa FL

The presentation will entail details of a new department leader's 15 month inspirational journey to revitalizing, re-tooling, and rebuilding a respiratory department in a 500-bed acute-care tertiary facility that was in great need of direction and leadership. Includes implementation of therapist-driven protocols, investments in advanced technologies to provide efficient and effective therapies despite corporate supply chain restraints, expansion of the scope of clinical practice to include higher level invasive procedures, and staffing replenishments with additions of over 20 new FTE positions to facilitate a new focus on an optimal disease management, patient-centric care model.



Laher, Douglas



Crotwell, Dave



Miller, Robert

Forum

11:00 am – 11:40 am

Bedside to Bench to Bedside: Using Quality Improvement Bench Research To Improve Your Department's Practice

**Dave Crotwell RRT-NPS FAARC,
Seattle WA**

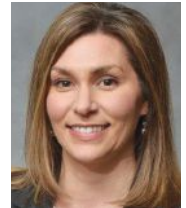
This lecture will share experience related to using quality improvement bench research as a standard practice to improve the quality of patient care in your institution.

11:45 am – 12:25 pm

Creating a Simulation Lab on a Shoestring Budget

**Judy Schloss BS RRT-NPS AE-C,
Minneapolis MN**

Simulation is one of the best methods to train staff or check for competence on new procedures/equipment without causing harm to an actual patient. But how many RT departments have unlimited funds to set up a simulation lab? In this lecture the speaker will walk you through the set up of a very basic sim lab without spending a fortune. She will describe less expensive alternatives to commercially available products.



Schloss, Judy

CLOSING CEREMONY

12:30 pm – 1:30 pm

**Douglas S Laher MBA RRT FAARC,
AARC Associate Executive Director/
Presiding**

TBD



2016 AARC Summer

Registration Form

Sunday-Tuesday, June 26-28, 2016 • Ponte Vedra Beach, FL

INTERNET: Go to www.AARC.org to register online and to receive a confirmation.

or MAIL: Send this form to AARC Summer Forum, 9425 N. MacArthur Blvd., Ste. 100, Irving, TX 75063-4706 U.S.A.
Full payment must be included with your registration form. Make checks payable to the AARC.

or FAX: If paying by American Express, MasterCard, or VISA, you may fax your registration form to 972-484-2720.

PLEASE PRINT

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

Focus on the Future: Maximizing Program Effectiveness
Saturday, June 25, 1:00 pm - 4:55 pm

CHECK ONE:

AARC Member

Senior & Student Members*

Non-member

By April 22

\$50

\$10

\$100

By May 27

\$65

\$10

\$110

After May 27 and On-Site

\$75

\$15

\$125

* Must be registered for the Summer Forum. Will not receive CRCE credit.

Summer Forum

Sunday, June 26, 7:30 am - Tuesday, June 28, 1:30 pm

CHECK ONE:

AARC Member

Senior & Student Members**

Non-member***

By April 22

\$270

\$25

\$410

By May 27

\$290

\$25

\$430

After May 27 and On-Site

\$310

\$25

\$450

Spouses may register on-site for \$25.

Which track will you primarily attend?

Education

Management

** Will not receive CRCE credit.

Method of Payment

Check or Money Order enclosed

Charge my Visa MasterCard American Express

Name of Card Holder (print) _____

Credit Card # _____

Expiration Date _____ Signature _____

*** 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.

No invoices will be issued. Cancellations must be in writing. There will be either a 25% or \$50 handling fee, whichever is less, for cancellations received by June 3, 2016. No refunds will be made thereafter.

Site and Travel Information

Save with Discounted Transportation and Lodging

Site

All AARC Summer Forum meetings will be held at the Sawgrass Marriott Golf Resort & Spa, 1000 PGA Tour Blvd, Ponte Vedra Beach, Florida 32082; phone 904-285-7777.

Benefits for AARC Attendees Staying at the Sawgrass Marriott Golf Resort & Spa

- Complimentary access to the resort's Cabana Beach Club, including beach shuttle service.
- Complimentary wireless high speed Internet in all guest rooms.
- Reduced rate for golf at TPC Sawgrass Dye's Valley Course. Individual tee times may be booked at the reduced rate of \$132 plus tax.
- Two complimentary bottles of water in-room upon arrival.
- Two complimentary cocktails in the lobby bar per room, per stay.
- Choice of complimentary self-parking or a daily \$10 valet parking credit.
- 10% one time discount on one spa treatment for each attendee. Identify yourself as an AARC attendee when you call for an appointment.
- Complimentary access to the resort's miniature golf course.
- Complimentary golf bag storage at the resort.
- Complimentary one year subscription for "Golf Digest" per guest room.
- Complimentary spa fitness classes.
- Complimentary wireless Internet in the lobby.
- Unlimited complimentary local and US domestic long distance calls.

Hotel Reservations

- **Cut-Off Date** for the AARC's special sleeping room rate is Friday, June 3.
- **Room Rates** are per room per night, and include a \$1.00 resort fee. Rates do not include 10.5% tax (subject to change without notice). Deposit required.

Tower standard guest room	\$146 single/double occupancy
One-Bedroom Villa Suite	\$219 single/double/triple/quad occupancy
Two-bedroom Villa Suite	\$359 single/double/triple/quad occupancy
- **Online** at <https://aws.passkey.com/g/55340388>
- **Call** 800-228-9290 or 904-285-7777. Refer to "AARC Summer Forum."
Discounted rates are available only through these phone numbers.

Airline Discounts

Jacksonville International Airport (JAX) is approximately 35 minutes from the resort. Discounted fares also apply to family and friends.



- **Online** at www.delta.com. Select Advanced Search and enter NMN47 into the Meeting Event Code box (no booking fee).
- **Call** Delta Meeting Network at 800-328-1111. Refer to meeting code NMN47 (booking fee added).



- **Online** at www.united.com. Enter ZWDY478349 in the Offer Code box (no booking fee).
- **Call** United Meetings at 800-426-1122. Refer to Z code ZWDY and Agreement Code 478349 (booking fee added).

2016 AARC Summer

Ground Transportation

Airport Shuttle/Sedan/Taxi Services



East Coast Transportation is the preferred transportation provider for the Sawgrass Marriott Golf Resort & Spa. Three types of service are offered between the Jacksonville International Airport (JAX) and the resort. Prices quoted are only for the Sawgrass Marriott. Reservations are required at least 24 hours prior to your arrival time.

Non-stop shuttle service is available for flights arriving between 9:00 am – 8:00 pm and flights departing between 4:00 am – 5:00 pm. Shuttles depart the airport and the Sawgrass Marriott on the top of the hour. The discounted rate is \$30 per person, each way. A credit card is required for payment.

Shared ride service is available outside the above shuttle times. Every effort will be made to combine you with other travelers that are arriving or departing around the same time with no more than 45 minutes of wait time. The one-way fare is \$49 per person if combined, or \$98 for one person. A credit card is required for payment.

Private service offers a sedan for 2 people with luggage, or an SUV for 3 – 5 people with luggage. One-way rates are \$132 for a sedan, \$192 for an SUV.

Reservations are required. Call 888-932-3932 or 904-525-8600 or go to <https://www.ectjax.com/aarc-2016/>.

SuperShuttle.

SuperShuttle offers shared ride service between the Jacksonville International Airport (JAX) and the Sawgrass Marriott Golf Resort. The van may make additional stops in route.

Discounted one-way rates are \$54 per person and \$10 for each additional passenger.

Other coupons cannot be combined with this rate.

To receive the discount, tickets must be pre-purchased least 48 hours in advance.

- **Online** at <http://groups.supershuttle.com/2016aarcsummerforum.html> (no booking fee).
- **Call** 800-258-3826 (\$3 booking fee added).

Taxi

Gator City Taxi is the official taxi company serving Jacksonville International Airport. Service is on the lower level outside baggage claim, or call 904-741-0008 or 904-355-8294. Their one-way fare is approximately \$90 for up to six people in the cab.

Forum

Rental Cars



Discounts are available for the Budget locations at the Jacksonville International Airport (JAX) and the Sawgrass Marriott Golf Resort (V7J)

- **Online** at www.budget.com. Click the “Use an offer code” box. Enter “U064639” in the “Offer Code (BCD)” box.
- **Call** 800-842-5628. Refer to Budget Customer Discount (BCD) number U064639.



Discounts are available for the Enterprise Rent-A-Car location at the Jacksonville International Airport (JAX).

- **Online** at www.enterprise.com. Enter Discount Rate Code L9D0194 in the “Promotion Code” box.
- **Call** 800-736-8222. Refer to Discount Rate Code L9D0194.

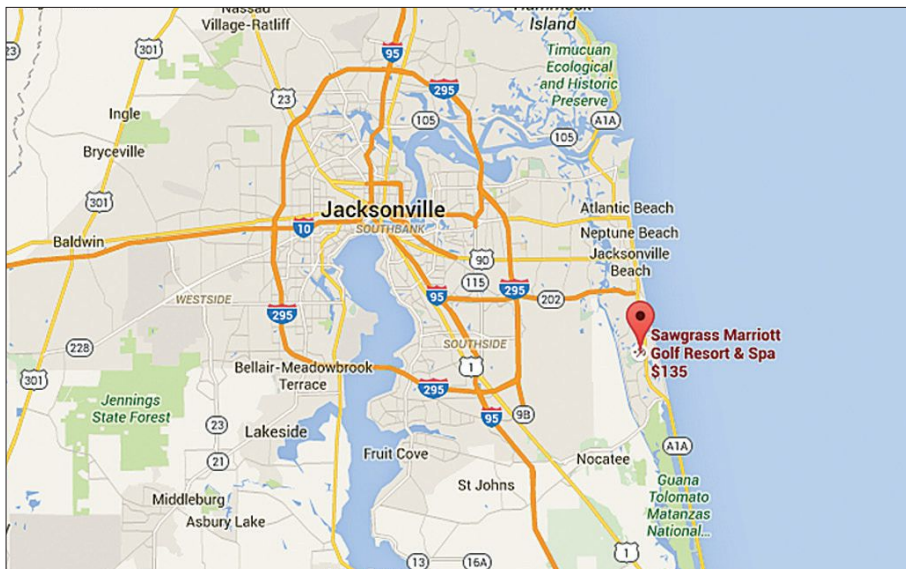


Discounts are available for the Hertz location at the Jacksonville International Airport (JAX).

- **Online** at www.hertz.com. Enter CV049T0012 in the Convention Number (CV) discount code box.
- **Call** 800-654-2240 or 405-749-4434. Refer to Convention (CV) Number 049T0012.

What to See and Do

- Ponte Vedra Beach: www.visitflorida.com/en-us/cities/ponte-vedra-beach.html
- TPC Sawgrass Dye’s Valley Course: www.tpc.com/sawgrass-dyes-valley-course
- Beaches: www.floridashistoriccoast.com/things-to-do/beaches/
- Florida Beach Camping Guide: tinyurl.com/floridabeachcampsites
- Red Couch Chronicles–German Spies!: www.floridashistoriccoast.com/photos-and-videos/
- St. Augustine: www.oldcity.com and www.augustine.com
- Fountain of Youth: www.fountainofyouthflorida.com
- St. Augustine’s Colonial Quarter: www.colonialquarter.com
- Castillo De San Marcos National Monument: www.nps.gov/casa/index.htm
- Old Town Trolley Tours in St. Augustine: www.trolleytours.com/st-augustine/
- Jacksonville: www.visitjacksonville.com/things-to-do/
- Amelia Island: www.ameliaisland.com/things-to-do





RC Currents

IN THE NEWS

Arkansas Program Achieves 100% Conversion Rate

Respiratory care students nearing graduation have a lot on their plates, and some of it comes with extra costs (like earning their NBRC credentials and applying for state licensure). The AARC tries to help out by easing the cost of the first year or two of membership for student members who convert to active membership status before or soon after graduation. We're pleased to say many students take us up on the offer.

But few RT programs can boast a membership conversion rate like the one seen at Black River Technical College in Pocahontas, AR, last December. All 15

students in the 2015 graduating class decided to jump start their careers by converting to active membership status. Welcome to the AARC Brandon Blackwell, Lillian Champion, Jessica Crawford, Melanie Crosland, Morgan Doyle, Mary Elliott, Annette Eubanks, Brea Glenn, Beth Goff, John Green, Tiffany Hensley, Jennifer Riney, Stephen Robertson, Samantha Saala, and B.J. Witcher.

And thank you Program Director Suzette Hicks, MEd, RRT, CPFT, and Director of Clinical Education Jessica Alphin, BS, RRT, for instilling such a high level of professionalism in your graduates. ■



All 15 of the December graduates at Black River Technical College converted to active AARC membership status prior to graduation.

Submit Your OPEN FORUM Abstract for AARC Congress 2016 by May 1

The AARC invites you to submit abstracts for the OPEN FORUM at AARC Congress 2016. Considered by many to be the premier event at the AARC Congress, the OPEN FORUM is your opportunity to gain recognition for your research in cardiorespiratory care by submitting an abstract for presentation at the Congress and having it published in *RESPIRATORY CARE*. We now have three different ways you can present your poster at AARC. See <http://aarc2016.abstractcentral.com> for more details. The deadline to submit abstracts for the OPEN FORUM is **May 1, 2016**. ■



APPLY BY
JUNE 1

International Fellowship Program Looking for City Hosts

Every year the American Respiratory Care Foundation sponsors an International Fellowship Program that brings physicians, therapists, and nurses from other countries to two cities on our shores to learn more about American-style respiratory care. 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.arcfoundation.org/international/fellows/city_host.cfm. This year's fellowships will take place in the fall just prior to AARC Congress 2016, Oct. 15-18 in San Antonio, TX.

For more information, contact Crystal Maldonado at crystal.maldonado@aarc.org. ■

School Breaks Linked to Asthma Exacerbations

New research out of the University of Texas finds the common cold is the primary culprit behind the rise in acute exacerbations of asthma that typically occurs when children return to school after a break.

The investigators developed a computer model that incorporated possible drivers of asthma exacerbations then compared the output of that model to the timing and locations of about 66,000 asthma hospitalizations from cities across Texas over a seven-year period. Results showed the spread of cold viruses to be the primary driver of asthma exacerbations in children.

The researchers speculate children may develop a lower immunity to cold viruses while they are off from school and around fewer other children. When they return to school and are exposed to more children and thus more cold viruses, that lowered immunity lowers their ability to fight off the infections. The study was published in a recent edition of the *Proceedings of the National Academy of Sciences*. ■

ARCF Now Accepting Applications for the 2016 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 American Respiratory Care Foundation. 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 the AARC Congress, scheduled this year for Oct. 15-18 in San Antonio, TX.

Learn more at www.arcfoundation.org/international/fellows/ and apply by **June 1**. For more information, contact Crystal Maldonado at crystal.maldonado@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 1** 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 the AARC Congress, scheduled this year for Oct. 15-18 in San Antonio, TX.

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 Crystal Maldonado at crystal.maldonado@arc.org. ■

Check Out the AARC New Members List Online

The "New Members" column can be accessed at http://c.AARC.org/new_members. Current AARC members are encouraged to check this site on the first of each month to view the names of individuals who have been approved as "Active Members" of the Association. ■

New Columns in 2016

AARC Times is starting two new columns this year, and we need your stories to fill them up!

The first is called "Storytellers," and it's where AARC members can share stories about their favorite or most memorable patient. Maybe it was an "aha moment" when you knew you had made the right professional decision for that patient. Maybe it was when you first realized how much of a difference you were making in the lives of that patient and his family. Or maybe it was just something the patient said or did that made you laugh or cry or just be inspired to be a better RT.

The second, "Reflections," is geared especially toward AARC members who have recently retired from the profession. We'd like you to look back at your career or some aspect of it and tell us what it meant to you and why. Funny, sad, inspiring — the door is wide open!

So start brainstorming some ideas and then submit your stories to *AARC Times* Editor Marsha Cathcart at cathcart@arc.org. ■



RT Student Members: Send Us Your Stories

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

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

▶ STUDENT CORNER

Earning a Credential and Getting a License

By Joseph Goss, MSJ, RRT-NPS, AE-C

You have graduated. Now what? Get a job, pay the school loans, and catch up on missed sleep!



Sounds like a plan — until you realize none of that will be possible until that National Board for Respiratory Care (NBRC) exam is complete and you have navigated the bureaucracy behind a licensure application. As a new graduate, both can be daunting tasks. Let's review a few points that will make the proverbial mountain into a molehill.

First, read both your NBRC and licensure applications. The applications contain

valuable instructions on providing all the necessary documents. While the NBRC Therapist Multiple-Choice and Clinical Simulation Examination application contains only five parts, there are many response choices in each part. Additionally, a licensure application can contain confusing questions. Knowing when to use "yes," "no," and "not applicable" when answering a question can make the difference between obtaining a license

and voluminous paperwork explaining your error. For example, how would you answer: "Do chemical substances in any way impair or limit your ability to practice?" Correctly completing the application relies on making the right choices. Take your time and read.

Second, complete each application as a draft. Spending an hour or two on a final version only to realize you misspelled a name or omitted a detail could be costly. Additionally, your licensure application may require the forms to be notarized. Notaries generally require you to sign documents in their presence. Once the draft is completed, have a friend or family member review the application. Their critique can help eliminate those mistakes.

Third, do not lie or omit information. All your years of schooling come down to these two simple forms. Providing false information could prevent you from being eligible for NBRC examination or state licensure. For example, as a part of licensure, you will likely complete a criminal background check. This is where any past mistakes will come forth. Provided you disclose the information, boards are generally willing to work with you.

Last step: Celebrate! You have earned your credential and obtained a license. You are a respiratory therapist.

Joseph Goss is an assistant professor of respiratory therapy at Bergen Community College in Paramus, NJ. ■

Expanding Roles

Who: Kevin McQueen, MHA, RRT, CM

What: Director of Safety/Environment of Care/Patient Safety Officer

Where: Tri-City Medical Center, Oceanside, CA

As a patient safety officer, I work with physicians, management, and frontline employees throughout almost every department in the hospital to reduce risks and improve safety. My schedule normally includes touring the hospital with the chief operating officer to ensure regulatory compliance, conducting risk assessments, analyzing adverse events, preparing for committee meetings, and researching best practices to reduce the risk of harm. The greatest part of my day is working with the staff on ways we can make the organization safer. ■



HISTORY BUFF

William Pollard, MS, RRT, RPSGT, majored in journalism at the University of Kansas partially to feed a love for history and writing he developed in high school. He put his writing skills to good use after graduation working as a technical writer for the State of Kansas, but when his job was being phased out in the early 1990s, he decided it was time for a change.

"I had a friend from college who had become a respiratory therapist at one of the local hospitals, and I asked him about respiratory," says the AARC member. "I liked the idea of trying something new that had various career options." He enrolled in his local RT program in 1993, graduated in 1995, and earned his RRT in 1996. Today he splits his time between two Florida Hospital sleep centers and also works as a therapist at one of the hospitals on the weekends. "I like working closely with patients in the sleep center, since at most we have two patients apiece."

But he hasn't left his love of history and writing behind. Over the years Pollard has written three books zeroing in on little known aspects of history in the areas where he has lived. The first, "Dark Friday: The Story of Quantrill's Lawrence Raid" details the attack on Lawrence, KS, in the mid-1800s that left as many as 183 dead. "I was interested in the 1863 Lawrence raid and found there was no comprehensive and unbiased book that told of this incident," he says. "Out of curiosity, I researched to find the whole story. After I found so much material, I decided it made sense to put

what I found into a book." The book won the Lyons Kansas History Book Award in 1994.

From there, Pollard turned his attention to forts and posts in Kansas during the Civil War and received a grant from the Kansas State Historical Society to pursue his research into the area. The result was "Forts and Posts in Kansas During the Civil War: 1861-1865." The book chronicles a time in history when Pollard says there was "much strife between those from southern and northern states who settled in Kansas."

Most recently, Pollard has taken on the history of his current neighborhood in Avon Park Lakes, FL. The Highlands County Historic Preservation Commission, where Pollard has served since 2013 and is now chair, is supporting the project. All the royalties from the book, which is expected to be published this spring, will go to a local historical museum. Next he plans to go back and write about forts and posts in Kansas from the 1740s to the 1850s.

It might be hard to see how research into historical events ties into respiratory care, but Pollard definitely sees a connection, and it's one he believes makes him a better RT. "Much of what RTs do in the acute care setting and in the sleep lab involves researching to find the best outcomes for patients," he says. "We have to ask patients the right questions to work toward good patient outcomes. Also, everything is in constant change, so we need to find technical information in magazines and journals and on the Internet." ■



William Pollard has written three books detailing little known aspects of history in the areas where he has lived.

Come Anytime!

"Visiting hours" may eventually go the way of the dinosaur in ICUs around the country, if the results of a recent study out of Utah are taken to heart in more hospitals. Investigators from Intermountain Medical Center surveyed ICU staff and family members before and after an unlimited visitation policy was instituted in the ICU. Results showed higher patient satisfaction levels after the new policy went into effect

and staff noted a positive change as well.

The new policy allows visitation at any time of the day or night, limited only by patient preference and clinical status. Under the old policy, visitors were limited to a 90 minute window in the morning and another 90 minute window in the evening. The study was published in a recent edition of the *American Journal of Critical Care*. ■



Ozone Exposure Ups ARDS Risk

Vanderbilt University researchers who looked at 1,558 critically ill patients found those with a long-term history of exposure to ozone were significantly more likely to develop the acute respiratory distress syndrome (ARDS). The effect was strongest in current smokers and those who had suffered a traumatic injury.

The study is the first to connect ARDS to ozone exposure, and given its size the authors believe the findings are robust. However, they are quick to call for additional study. “We acknowledge that future studies need to replicate the findings in more diverse geographic samples so that we may more confidently recommend guidelines for reducing ozone exposure and ARDS risk among this vulnerable group of patients,” study author Lorraine Ware, MD, was quoted as saying. The research was published online by the *American Journal of Respiratory and Critical Care Medicine* earlier this year. ■



SP-A to the Rescue

Genetic mutations in the protein known as pulmonary surfactant protein A (SP-A) may be behind many cases of respiratory disease, report researchers from the University of Arizona — and may even lead to new ways to treat them.

The investigators arrived at that conclusion after pioneering a new method of studying SP-A that involves genetics. Specifically, they examined how specific gene variations of SP-A affect lung function and the ability to fight off a common pathogen, *Mycoplasma pneumoniae*.

Results showed the human population expresses many genetic variants of SP-A. Asthmatics, in particular, have a specific SP-A variation that is not as useful in reducing immunological responses to infectious agents and allergens in the lungs. According to study author Julie Ledford, the team hopes to be able to “develop a therapeutic involving small functional peptides of SP-A that can rescue the function of the genetic variant of SP-A in asthmatics.”

The study was published in a recent edition of the *Journal of Immunology*. ■

Transitions

William W. Goding, MEd, RRT, passed away in January. Prior to his retirement, he served as program director of respiratory care and dean of health professions at North Shore Community College in Danvers, MA, and he was also an active volunteer over many years for the Massachusetts Society for Respiratory Care, Committee on Accreditation for Respiratory Care, and National Board for Respiratory Care. Goding is survived by his wife, Jackie Long-Goding, also a respiratory therapist. ■

Contribute to Our “Transitions” Column

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

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



Dina Lewis relied on her RT training to save a man's life at her gym.

One More Patient

Dina Lewis, RRT, was looking forward to a nice workout after her shift ended at Kaiser Permanente South Sacramento in Sacramento, CA, last fall. But when she walked into her gym and saw 58-year-old Bob Leonard lying on the ground and unresponsive, she knew her RT duties for the day weren't over yet.

"My first thought when I saw Mr. Leonard was to get in there and start the steps," says the eight-year veteran of the profession. She immediately called for the gym's automated external defibrillator (AED) too — a device she knew was available because she walks by it hanging on the wall each time she comes to exercise.

"I am so thankful for that machine and it was the easiest machine to function," she recalls now. With the help of several bystanders — including a friend of Leonard's who was there with him that day — she initiated the resuscitation effort, first checking for a pulse and then starting chest compressions. After about a minute of compressions, she followed the instructions on

the AED pads and gave Leonard a shock, then resumed chest compressions with the assistance of Leonard's friend. After about a minute and a half, Leonard woke up and was soon alert and talking.

Lewis, who is NRP, PALS, ACLS, and BLS certified, credits her RT training for her calm, cool, and collected reaction to the emergency situation. "As an RT, I think we all know that one minute our shift can be the best shift and in a second that can all change," she says. "In an emergency, especially out in the world, you don't have much time to think. As you approach the situation you're doing an assessment and then you react — training through those steps repeatedly is huge and becomes ingrained in us."

The AARC member has been called a hero for her actions, but as a therapist, she knows more came into play in ensuring a good outcome for Leonard than just the resuscitation effort. "I understand my role was vital in Bob's outcome, but I also think getting him to the hospital and into the cath lab in such fast timing is what was most important."

Bob Leonard — who, unknown to either of them at the time, has another connection to Lewis through her husband, who grew up with Leonard's daughters — sees things a little differently. "Dina deserves all the accolades in the world. I told her she is my angel," he was quoted as saying.

The AARC shared Lewis's story on social media earlier this year and the kudos she received from her fellow RTs were overwhelming — and came at just the right time for this young RT. She had just celebrated her 30th birthday and was having the typical "is this really where I need to be in life" thoughts when she opened Facebook and saw the response. "The outpouring of support feels amazing. I guess someone just wanted to remind me that, yes, this is exactly where you're supposed to be. I get the chance to help people and have a role in teams that do amazing things. I'm very proud of my profession and very hopeful for our future!" ■

Telehealth in the ICU

Is telehealth a good idea in the ICU? If the results of a survey conducted by investigators from Rush University Medical Center are any indication, the answer could be yes. They questioned 1,213 nurses who either interface with telehealth at the bedside, work in remote tele-ICU locations, or both. More than 75% said tele-ICU systems provide them with the opportunity to improve patient care and a majority also said tele-ICUs improve collaboration, job performance, and communication. In a follow up to the initial survey, a smaller group of 60 respondents cited critical thinking skills, ICU experience, skillful communication, mutual respect, and emergency patient care management as the most important skills for clinicians working in the tele-ICU environment.

The study was published in a recent issue of the *American Journal of Critical Care*. ■



E-cigarettes Damage Cells

As the debate continues on the value of e-cigarettes either as a path to smoking cessation or a replacement for tobacco cigarettes, new research out of San Diego suggests neither use is a good idea. In a lab study on human cells exposed to extracts taken from both nicotine-containing and nicotine-free e-cigarettes, they found DNA strand breaks — the kind of cell damage consistent with the development of cancer. Cell death was more apparent as well.

“For now, we were able to at least identify that e-cigarettes on the whole have something to do with increased cell death,” study author Dr. Jessica Wang-Rodriguez was quoted as saying. “We hope to identify the individual components that are contributing to the effect.” The study appeared in a recent edition of *Oral Oncology*. ■



Graphic Images of “Former Smokers” Strike a Chord

Seeing disturbing images of the damage that cigarette smoking can cause, such as a man smoking through a tracheostomy, really does sway smokers’ opinions of their habit, according to researchers from Ohio State University and the University of Pennsylvania. They compared outcomes among 244 adult smokers who were divided up into three groups: one received packs with the graphic warnings plus text warnings, another received packs with text warnings alone, and the third received packs with both, plus additional text on how every cigarette entails risk. They all smoked their usual brand of cigarettes from these packs for four weeks.

Participants were surveyed about their experiences with the new packaging each week during the study, with those who received packs with the graphic warnings more likely to report the packaging made them feel worse about smoking. They were also more likely to read or look closely at the information on the warning labels, better remember what was on the labels, and view the warnings as more credible.

The study was published in a recent edition of *PLOS ONE*. ■

Asthma Linked to Shingles

Any older adult who had the chickenpox as a child is at risk for shingles, but new research conducted by investigators from the Mayo Clinic finds people with asthma are especially prone to develop the condition.

The investigators identified 371 cases of shingles in Olmsted County, MN, during their study period, and compared them to 742 others who did not develop shingles. Twenty-three percent of the shingles patients had asthma versus just 15% of the control patients, for an increased risk of shingles in the asthma group of about 70%. Among patients with atopic dermatitis, the rate of shingles was 12% versus 8%. “As asthma is an unrecognized risk factor for zoster in adults, consideration should be given to immunizing adults aged 50 years and older with asthma or atopic dermatitis,” lead author Young Juhn, MD, was quoted as saying.

The study was published in a recent edition of the *Journal of Allergy and Clinical Immunology*. ■



Smoking Bans Keep Kids from Lighting Up



What's the best way to curb tobacco use among young people? According to investigators from Ohio State and Purdue, tobacco bans may be better than higher taxes on cigarettes. While their study found both strategies reduce smoking overall, smoking bans had a bigger impact on casual smokers — those who smoke less than a pack a day. Since most kids who take up smoking start out as casual smokers who only smoke when opportunity allows smoking bans translate to fewer opportunities to light up.

“There’s a lot of evidence that casual, social smokers are influenced by their environment,” study author Mike Vuolo was quoted as saying. “If they can’t smoke inside with their friends at a restaurant or bar, they may choose not to smoke at all.” The study appeared in a recent edition of the *American Journal of Public Health*. ■

Strange But True...

Score one for the mustache: In a tongue-in-cheek study with some serious overtones, Penn Medicine researchers report men with mustaches are more likely to hold leadership positions in medical schools and academic medical centers than women, 20% versus 13%. Their conclusion? Do more to implement policies against gender bias in these settings.



Quality trumps quantity: Duke University researchers who studied the sleep patterns of 21 species of primates, including humans, find people sleep considerable fewer hours per night than other primates but get a higher quality of sleep via more time spent in deeper stages of sleep. In a separate study, the finding held true even in three tribes of hunter-gatherers who aren’t exposed to any artificial light.

My genes made me do it: Why do people feel so bad when they are ill with a cold, flu, or other infectious disease that they are compelled to call in sick? According to investigators from the Weizmann Institute of Science, they’re not just reacting to the disease symptoms, but instead exhibiting a genetic behavior ingrained in everything from people to bees that’s aimed at isolating contagious beings from others in their community. Survival of the species is the ultimate goal. ■





Industry Watch

ResMed to acquire Inova Labs

ResMed has entered into a definitive agreement to acquire Inova Labs Inc., a privately held medical device company specializing in the development and commercialization of innovative oxygen therapy products. “We are excited to expand our offerings and solutions for the global COPD epidemic and to progress even more swiftly toward our ResMed goal of improving 20 million lives by 2020,” said CEO Mick Farrell. “With the acquisition of Inova Labs, ResMed is delivering on its commitment to find further ways to improve the quality of life for tens of millions of people as they deal with COPD.”

Case Western Reserve launches CF studies

Researchers from Case Western Reserve University have launched two new studies to help patients with cystic fibrosis. In the first, investigators

are trying to find out if CF lung symptoms can be reduced by altering a specific component of the angiotensin pathway. The second focuses on genetic correction of the CF mutation, with an eye toward determining when this correction is best applied and whether or not complete correction is necessary to gain a clinical benefit. Both studies are being carried out in mouse models.

Helix BioPharma moves forward with NSCLC study

Helix BioPharma Corp. recently announced the opening of patient screening for the 15th dose level cohort in its ongoing Phase I/II clinical safety, tolerability, and preliminary efficacy study of L-DOS47 in Poland. L-DOS47 is currently being clinically evaluated in two clinical studies, in Poland and in the United States, as a treatment for certain patients with non-small cell lung cancer (NSCLC). The drug is Helix’s first immunoconjugate-based drug candidate

based on the company’s novel DOS47 platform technology, which is designed to use an innovative approach to modify the microenvironmental conditions of cancer cells in a manner that leads to their destruction.

Good results for PH drug Selexipag

Data from the largest pulmonary hypertension study to date shows the oral medication Selexipag led to a 40% reduction in hospitalizations and worsening symptoms among patients with pulmonary hypertension. The GRIPHON study, which was sponsored by Actelion Pharmaceuticals, involved 1,156 patients in 39 countries. Selexipag targets a well-known disease pathway that opens blood vessels to the lungs, improves heart function, and is easier to use than treatments delivered with infusions or injections. It was approved by the FDA in December.

CHLA to get first-of-its-kind allergy center

Los Angeles financier and philanthropist Tom Gores and his wife Holly have made a \$5 million commitment to establish an innovative new pediatric allergy treatment center at Children’s Hospital Los Angeles (CHLA). The gift has its roots in the Gores’ family’s own experience with food allergies in their son. “For families with children who suffer from severe food allergies, simply going out to eat can be a scary and dangerous experience,” Holly Gores was quoted as saying. “We know firsthand what it’s like to live with that fear and we want to make more resources available here in Southern California to improve the lives of children diagnosed with food allergies.”

Kadmon begins dosing in NSCLC study

According to Kadmon Corporation, LLC, the first patient has been dosed in a Phase II clinical trial of tesevatinib,

the company's investigational tyrosine kinase inhibitor for the treatment of non-small-cell lung cancer in patients who have activating mutations of the epidermal growth factor receptor gene, prior treatment with a tyrosine kinase inhibitor, and whose disease has metastasized to the brain or the membrane lining the brain and spinal cord. The open-label, multicenter study is examining tesevatinib administered at 300 mg daily in up to 40 patients in the United States.

Diana Gelston joins Respiratory Motion

Diana Gelston has joined Respiratory Motion as the company's chief commercial officer. Gelston brings more than two decades of experience and leadership in health care technology organizations to the job. Most recently, she served as the corporate vice president and market leader of business transformation for Philips Health Systems, North America, overseeing efforts to streamline its commercial operations.

Mylan working toward generic offering of Advair Diskus®

Mylan N.V. has submitted an abbreviated new drug

application to the FDA for fluticasone propionate 100, 250, 500 mcg and salmeterol 50 mcg inhalation powder. The product is the generic version of GlaxoSmithKline's Advair Diskus®, which is indicated for the treatment of asthma and the maintenance treatment of airflow obstruction and reducing exacerbations in patients with COPD. Mylan representatives say they will provide appropriate updates as the FDA process unfolds.

Qualcomm Life, Novartis continue collaboration

According to Qualcomm Incorporated, its subsidiary, Qualcomm Life, Inc., and Novartis are expanding their global connected therapy management collaboration. Novartis will leverage Qualcomm Life's connectivity solutions to power its next-generation connected Breezhaler™, the inhaler for its COPD portfolio. Qualcomm Life is developing the reference design for a small, low-power, disposable module that will seamlessly connect with Qualcomm Life's 2net™ Platform and can detect and report inhaler usage, as well as the duration of the patient's inhalation, which indicates quality of the inhalation.

NAPA meets PQRS requirements

Medicare has recognized North American Partners in Anesthesia (NAPA) for meeting the 2014 Physician Quality Reporting System (PQRS) requirements. With more than 100 reporting categories to choose from, NAPA selected complex measures within the patient safety category that are relevant to the care provided before, during, and after anesthesia: perioperative temperature management, timing of prophylactic antibiotic, and prevention of catheter-related bloodstream infections. In addition to having internal staff dedicated to the reporting process, NAPA also engaged outside consultants to make sure its quality data exceeded standards.

BrainStorm Cell Therapeutics makes progress in ALS study

According to BrainStorm Cell Therapeutics Inc., a paper in the January edition of *JAMA Neurology* discussed the outcome of the first-in-man Phase I/II study and Phase II dose escalation study with NurOwn® in amyotrophic lateral sclerosis. Data from the study, which was conducted in Jerusalem, provide indication of

a clinically meaningful benefit as reflected by a slower rate of disease progression post treatment. "The results were impressive, with close to 90% of patients who were injected intrathecally through the spinal cord fluid being responders to the treatment, either in terms of their respiratory function or motor disability," study author Dimitrios Karussis, MD, PhD, was quoted as saying. "The ongoing Phase II double blind trial in the U.S. is using an identical treatment protocol."

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

Industry Update


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Respiratory Care Society of Washington – 43rd Annual Pacific Northwest Regional Respiratory Care Conference and Scientific Assembly

Contact: www.RCSW.org; Christian Striggow (509) 429-8184

April 18-19

Birmingham, Alabama

Alabama Society for Respiratory Care 2016 Spring Conference

Contact: www.alsrc.org; Jerry King (205) 966-6006

April 18-19

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June 1-3

Oak Brook Terrace, Illinois

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May 6-7

Columbus, Ohio

7th Annual Pediatric Asthma Conference

Contact: Nationwide Children's Hospital, (614) 355-0676; <http://www.nationwidechildrens.org/asthma-conference>

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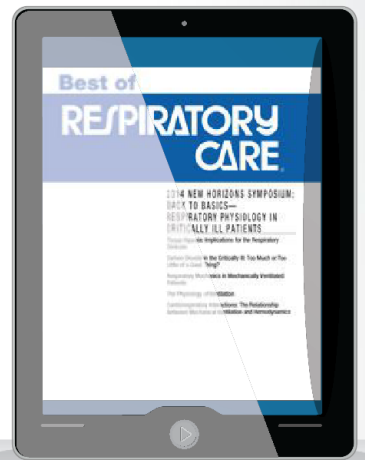
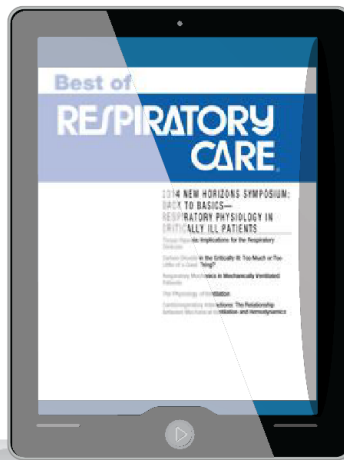
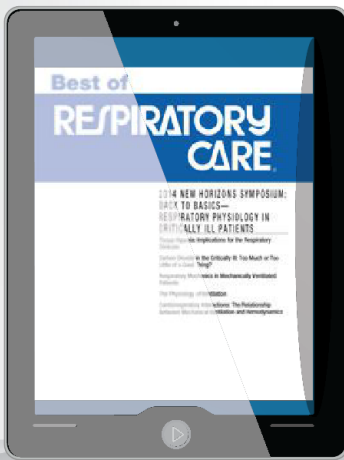
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