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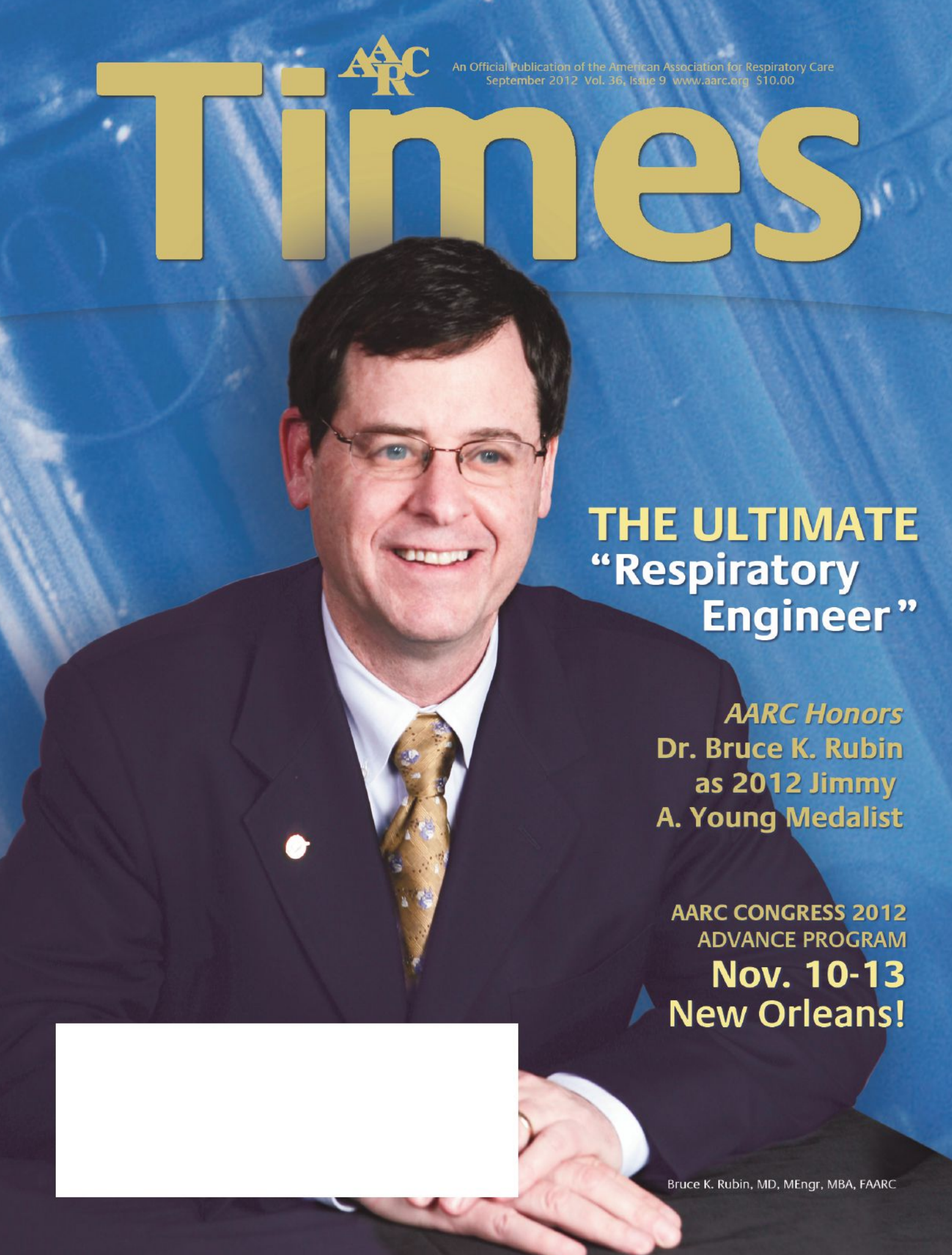

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AARC Strategic Plan

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

AARC Strategic Objectives

• Validate the science of respiratory care and the value of the respiratory therapist (RT) in providing respiratory care by supporting, conducting, and publishing research information.

• Promote respiratory therapists as the best providers of respiratory care by assuring that the science that clarifies the value and role of the RT is provided to those stakeholders whose decisions and actions need to be guided by that information.

• Promote respiratory therapists and the American Association for Respiratory Care by developing and implementing promotion and marketing campaigns targeted to unique audiences.

• Assure the Association has the resources to meet the needs of its members and that the AARC has the needed financial, volunteer, and staff resources needed to accomplish the implementation of the strategic plan of the Association.

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

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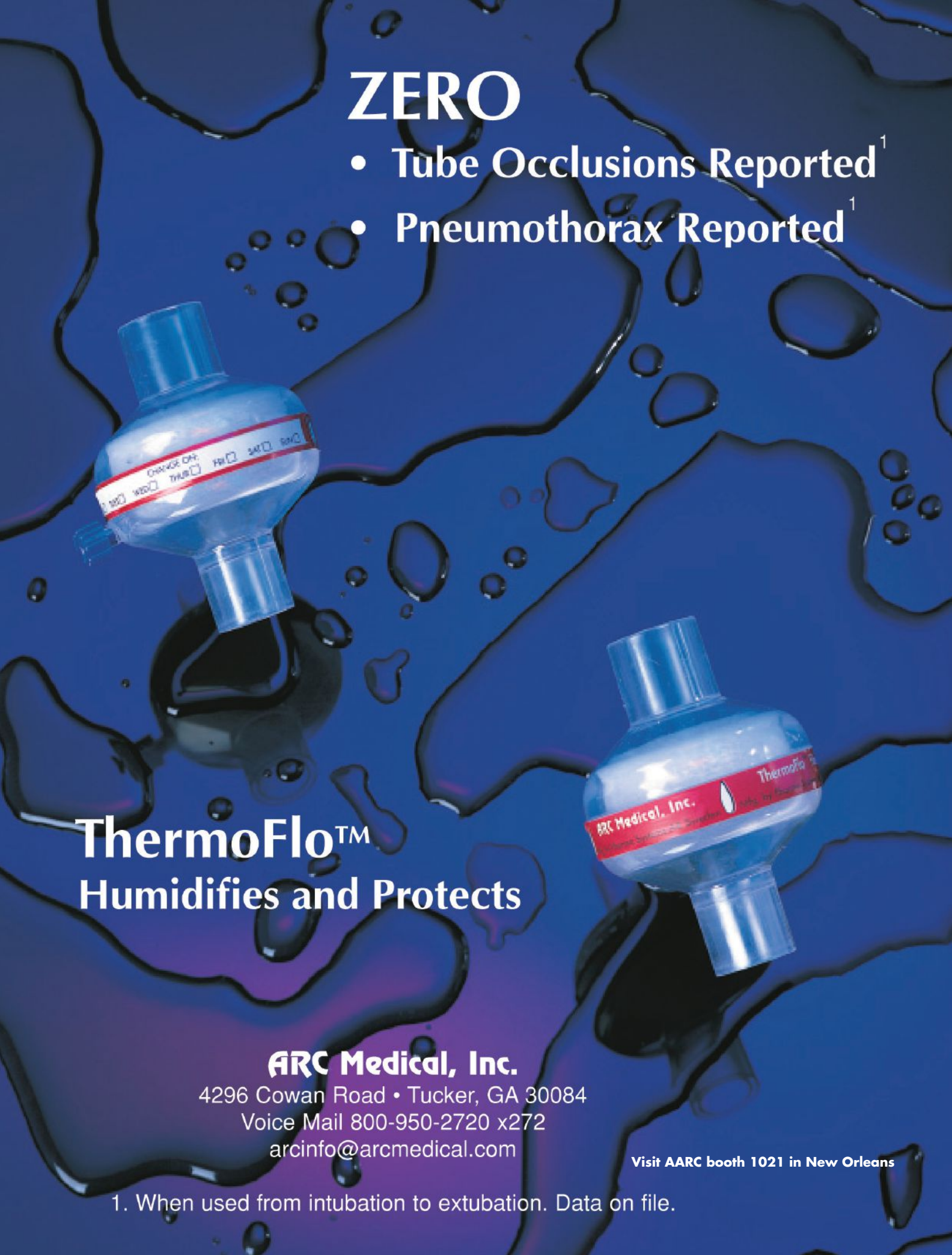
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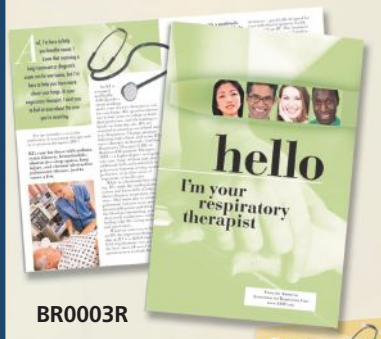

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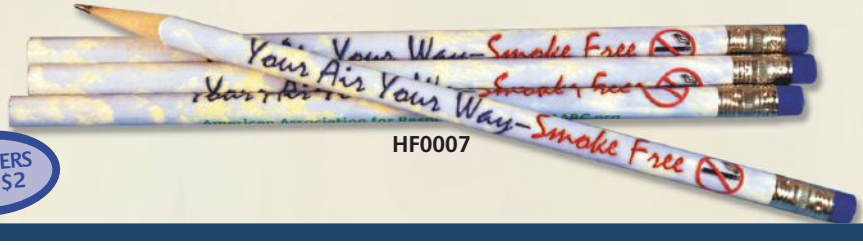

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Matching Patients to Oxygen Delivery Devices

by Kitty Collins, RRT

Two landmark multicenter trials conducted in the early 1980s, the Nocturnal Oxygen Treatment Trial and the Medical Research Council trial, set the standards for prescribing long-term oxygen therapy (LTOT) throughout the world. These studies identified oxygen therapy worn for at least 18 hours a day as the one treatment that improved survival rates in chronic respiratory failure patients with a PaO_2 <60 mm Hg. The evidence also supported the use of LTOT to stabilize pulmonary arterial hypertension, improve quality of life and cognitive function, increase exercise tolerance, and reduce exacerbations.[1]

Portable oxygen options

Traditionally, LTOT has been prescribed at a set liter flow either continuously or with sleep, with little regard for oxygen requirements during activities of daily living (ADLs), exercise, or traveling to higher altitudes. There was a time when the only option available for portable oxygen was compressed gas. Liquid oxygen became available in the 1980s, which provided patients with lighter, more portable systems with longer duration. Over the years there has been an effort to design systems that are more economical and still provide adequate oxygen delivery.

Unfortunately, the majority of patients today are set up on portable systems that do not allow them to maintain an SpO_2 >88%. An Open Forum abstract presented at the 2006 AARC Congress by Trina Limberg and staff from the University of California, San Diego, for example, found that among 65 patients assessed at rest and with activity, 60% were unable to maintain an SpO_2 >90%. Among this group, 20% needed the oxygen setting to be adjusted upward, and 40% could not be titrated at any setting and required a change in portable system.[2]

Patient considerations

Before matching a patient to an oxygen delivery device, there are several things that must be considered:

- Patient nominal physical condition
- Patient cognitive level
- Patient lifestyle
- Patient activity level (at both maximum and minimal activity)
- Patient oxygenation needs
- Patient elevated stress while traveling.

For example, an 80-year-old woman who has a caregiver and may only go to the grocery store and to her children's homes a few times a week will have different needs than a 55-year-old man who is still working. With the elderly woman we must consider her ability to physically lift and carry the device, including her ability to put it in a grocery cart and get it into and out of her car. Her dexterity and ability to adjust the settings and to change tanks is a big consideration as well. We should also keep in mind that she will likely be away from her home for only a few hours at a time.

The 55-year-old working man, however, will need a device he can use all day; so we must make sure it can either be recharged or changed while he is away from home. His physical condition and ability to lift the device may be a consideration, too.

Then we have to take their oxygen requirements into account. Let's say the 55-year-old man has idiopathic pul-

about the author...

Kitty Collins, RRT, is the network manager of outpatient pulmonary rehabilitation for Seton Healthcare Family in Austin, TX.

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monary fibrosis and that his SpO_2 at rest on 2 LPM is 96%; but when he ambulates, his SpO_2 decreases to 80% on the same setting. The 80-year-old woman has COPD and her SpO_2 at 2 LPM is 93% and decreases to 89% with ambulation. If the situation were reversed, then we would be looking at different considerations in regards to which oxygen systems to consider. Pulse oximeters for personal use can be acquired and are recommended for patients to monitor their own oxygen saturations; however, they are not covered by Medicare. Patients should be cautioned that this is only a tool and they should discuss how to best use this with their physician and work with a respiratory therapist as to proper monitoring.

Portable oxygen system variances

In the hospital setting, we know that if a patient needs more oxygen we can adjust the FIO_2 by increasing or decreasing the liter flow; but in the ambulatory setting, unless the patient is on a portable system that gives continuous flow, there is a wide discrepancy in settings. The first thing to understand is that when someone is set up on a portable system with a conserving device (which is a normal occurrence) and the physician order is for 2 LPM, the durable medical equipment (DME) company will instruct the patient to set the dial at 2. A setting of 2 reflects a volume that will be delivered to the patient, but that volume does not necessarily translate to "2 LPM." Each system operates differently with regard to the volume delivered when the respiratory rate (RR) increases as well. In many cases, as the RR increases, the volume decreases.

There are currently 12 portable oxygen concentrators (POCs) on the market, and they each vary considerably in regards to available settings (continuous versus pulse dose and combination) as well as the actual volume delivered.[3] The smallest of these has much lower output capabilities and would most likely not meet the demands of someone with high oxygen needs.

There are just as many variations in volume when using liquid systems and compressed gas regulators with conserving devices. When the setting is increased, the dose volume increases; but remember, *that setting has nothing to do with LPM and is just a numbered setting*. Each device is specific as to how high the number setting will go and whether it provides continuous flow as well as pulse dose or intermittent flow.

Additional variations can be found in:

- Product sensitivity
- Oxygen purity
- Maximum oxygen production (POC)
- Product duration
- Size and weight of the system
- Patient's breathing patterns.

Depending on the type of demand system and the patient's inspiratory effort, he may not be able to trigger inspiration on every breath. This can be observed audibly and should be assessed not only at rest but also with normal activities as his RR increases.

Compressed gas and liquid oxygen will provide 99% oxygen purity (unless the compressed system is a self-fill). A POC averages between 87–96% ± 3% purity.[4] This drop in purity could be significant, particularly for someone whose oxygen requirements at rest are higher than 2 LPM. Self-fill systems allow users to fill their oxygen tanks from their stationary concentrator source. The average purity of oxygen with a stationary concentrator is about 90–95%, depending on the liter flow. The higher the LPM setting, the lower the purity.

Selecting the appropriate device

The primary tools to use when assessing the patient on a portable system are the same ones we have come to depend on in the hospital setting: a pulse oximeter and a good clinician who understands the accuracy and limitations of these devices. Many times, a period of trial and error is necessary to find a portable system that will work for an individual patient.

Some key points to remember when assessing your patient:

1. Determine his activities of daily living (ADLs) and assess his oxygen system while he performs these activities.
2. If he is happy with his current system but it is not meeting an SpO_2 ≥90% with ADLs, first increase the setting he is on to determine if the system will work on a higher setting.
3. If the system also has an option for continuous flow, assess the patient on this option as well; however, do note that using a pulse dose setting will allow for better conservation and, thus, more freedom for your patient.
4. If the above tactics do not work, ask the patient's DME about the availability of other systems. Become knowledgeable on available systems, particularly those that provide higher outputs and volume adjustments/increases with increasing RR.
5. Be aware that the patient may be resistant to changing his system and should be involved when looking at other options.

6. Repeat the assessment process with another system. You may need to try several before you find the perfect one.
7. Once you have determined the appropriate device and setting, pass the information on to the prescribing physician and the DME. Remember, the physician has prescribed the oxygen based on a set LPM and is generally not familiar with the portable systems and their capabilities and limitations.
8. Patients who need continuous flow may benefit from a liquid system; however, one may not always be available. Patient education is especially important regarding the use of continuous flow as the duration times will decrease dramatically in this mode. Ideally, the patient will only need this mode with ADLs and can switch to pulse dose when resting.
9. When assessing patients, keep in mind that some will actually be able to decrease their oxygen usage.
10. Remember, anything that you have determined clinically should be reviewed by the ordering physician and covered by a physician order.

It's our responsibility

There is no magic formula for choosing the best oxygen delivery device, and we don't foresee one anytime soon. Robert McCoy wrote an article in Respiratory Care[5] back in 2000 addressing the issues surrounding portable oxygen delivery systems, and most of the concerns he had then are the same ones we have now — only stronger — due to lower Medicare reimbursement for home oxygen delivery.

As health care changes and the focus shifts to keeping patients out of the hospital, those of us working in inpatient and outpatient settings alike have a responsibility to ensure that our patients requiring oxygen are actually receiving the correct dosage to meet their needs so that they can live as active and productive lives as possible. No other clinical specialist has as much expertise and knowledge in this area as the respiratory therapist. ■

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ADDITIONAL WEB RESOURCES

American College of Chest Physicians — www.chestnet.org/accp/patient-guides/prescribing-long-term-oxygen-therapy

LTOT Network — www.ltotnet.org/index.htm

National Home Oxygen Patients Association — www.homeoxygen.org/

Some Thoughts and Perspectives Concerning Membership and Political Activities

by Jerry S. Bridgers, AASD, CRT, LRCP

I started my journey in respiratory care on Sept. 5, 1961, and I remember what my instructor and program director told me. He reminded me that staying involved in our professional organization was an active way to work for your profession that would ultimately advance your profession. I joined the American Association for Inhalation Therapy (now the American Association for Respiratory Care) in January 1963 and have never regretted that choice. My instructor also told me that respiratory therapy was a good profession and that it would put food in my stomach, clothes on my back, and a roof over my head if I would just stay involved and work hard; and this profession has done just that for my 49 years of active practice.

I remember the hard work we all have done to promote respiratory care — the hard work to receive recognition and protection of our patients through state licensing of the practice and profession. I recall the brick walls we RTs ran into because of the lack of knowledge by our legislators about the respiratory care profession; most of them thought we were some specialized part of nursing. We have had to fight for that recognition, and we have successfully done just that.

I am honored to have been elected by the Mississippi Society for Respiratory Care to serve in the AARC's House of Delegates and have taken on the voluntary assignments (which I gladly accepted) that were requested by the AARC Board of Directors and the Executive Office to work on promoting, educating (patients/public/policymakers) and protecting this profession from those who might diminish it.

I think back over the years when we were just getting started and how we were struggling just to keep our departments going and fighting to remain independent and unique among other hospital units. Initially, our focus was on educating the administrators, hospital staff, and physicians; and as a profession we were focused on that (which was plenty) and not turned outward on legislative or regulatory issues… which for many states caused us problems down the road.

Having been involved in and a part of the AARC Political Advocacy Contact Team (PACT) for 16 years and the Mississippi Society for Respiratory Care (MSRC) legislative process for over 30 years has been a true learning experience.

One of my assignments as a Mississippi PACT representative has been representing my state at the AARC's annual Capitol Hill Advocacy Day. Each state PACT is tasked with scheduling meetings with their own state delegation and then meeting with our legislators to educate and advocate for our profession's national agenda. It is my belief that creating the PACT and sending RTs to Washington, DC, to advocate for our patients and profession has been one of the most positive moves ever made by the AARC. Through this process we have truly learned the importance of talking to the legislators directly in face-to-face meetings or hammering home our message by writing letters, emailing, or calling and getting our patients involved in the legislative process.

As I look back on 49 years in the profession, I feel we need to:

1. Increase membership and participation in the state societies and the AARC. Just look at the numbers from the U.S. Bureau of Labor Statistics:

about the author…

Jerry S. Bridgers, AASD, CRT, LRCP, is a retired respiratory therapist and a member of the AARC Federal Government Affairs Committee. He lives in Raymond, MS.

There were 126,500 RTs in the United States in 2010, and in 2020 that number is projected to be 158,200. If all respiratory therapists were involved in the various projects and opportunities offered by the AARC and the state societies, the impact would be phenomenal.

2. Educate employers, administrators, hospital staff, legislators, patients, physicians, and the media about cardiopulmonary diseases.

3. Promote good respiratory health through active community involvement with civic organizations.

4. Promote and encourage RTs and pulmonary patients to be involved with policymakers, both legislators and regulators, because they are the ones who control the purse strings as to who gets care and who can provide care. They are the ones who can ensure that RTs are included in laws and rules.

I love this profession, and I know we have many dedicated professionals working to make patient care better; but it is my hope that all of us will work to give back to it what it has given to us. I am so grateful for the hard work the AARC and its staff have done all these years to promote respiratory care at the state and federal level. But there is still a lot of work to be done. It is my hope that the respiratory therapy community will roll up their sleeves and stay involved.

Even though I am now retired, I will still go if I am called or needed because I feel obligated to assist wherever or whenever I can — because I **am** a respiratory therapist and that's what we do. ■

Special Relationships

by Anthony L. DeWitt, JD, RRT, FAARC

In May of this year my second and third grandsons arrived within one week of each other — one in Alabama, and one in Missouri. While visiting the last to arrive, and while my daughter was out of the room, my grandson needed changing. Being a modern, liberated man unafraid of these duties, I immediately tried to con my sister into doing the diaper change; but she explained she had forgotten how. So I grabbed the diapering equipment (diapers, wipes, gas mask, etc.) and promptly set about diapering my grandson. I heard bells and an overhead announcement distantly in the hallway and paid it no mind. I had a job to do, and time was of the essence. I had diapered my own sons, and I knew the risks.

I guess I should say that I paid the bells and announcements no mind until a nursing SWAT team descended on me and demanded to know what I was doing. I was standing there with a two-day-old child's legs in my hand trying to slide a diaper under his behind before the waterworks turned on, and so I thought the actions were reasonably self explanatory. But apparently I had shut down the entire nursing unit because in my attempt to diaper my grandson, I had caused the anti-kidnapping sensor to be disengaged. The nurses were not a happy bunch!

A special duty

A hospital has a duty to protect infants who are under its care from harm inflicted by third parties. That is why every hospital with a newborn unit has procedures in place to shut down the unit if someone attempts to leave with the baby before the sensor is deactivated. The duty to protect newborns is based on the newborn being unable to alert anyone that it is being taken against its will. So a hospital has a duty, in this situation, to protect this vulnerable group of patients from criminal acts by third persons.

Yet, the law is somewhat peculiar in this regard. Ordinarily a person has no duty to a neighbor or stranger to protect that person against the criminal acts of a third person. So if someone is attacked on the street by a criminal, you have no duty to go to their aid or stop the attack. There is a similar rule about a duty to rescue. Generally, absent either a special relationship or unusual circumstances, there is no duty to rescue someone who is in peril. But special relationships change all that.

PJY was a patient at Huntsville Hospital being treated for kidney stones on the morning of July 11, 1987. She was sexually assaulted by a man who was later identified and who was a trespasser on hospital grounds. He was in an area of the hospital where he should not have been during hours when visitation was not permitted. She sued the hospital and the security service alleging negligence. The hospital and security service responded by saying they had no duty to protect her.

The trial court agreed with the hospital and entered a directed verdict against PJY. She appealed. She claimed that at the time of the assault she was still heavily sedated and, therefore, that the hospital owed her a duty of protection. The Alabama Supreme Court agreed and reversed the trial court. It found that because the woman was sedated, the hospital owed her a duty of protection.[1]

about the author...

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

However, in *Charleston v. Larson* (an Illinois case) a nurse sued a physician because the physician failed to properly medicate a patient, and that patient attacked and savaged her. Because there was no patient-physician relationship between the nurse and the psychiatrist, the Illinois court refused to impose a duty on the physician.

The right to protection

Hospitals can be dangerous places. Visitors frequently prowl through the belongings of others. Sometimes visitors attack patients and staff. Sometimes employees attack patients and visitors. When will a hospital have a duty to protect a party?

A duty arises, according to legal scholars, where:

(a) a special relationship exists between the hospital and the third person which imposes a duty upon the hospital to control the third person's conduct, or

(b) a special relationship exists between the hospital and the patient which gives the patient a right to protection.

The first setting is similar to the *Larson* case where the relationship between the hospital and the attacker was such as to put the hospital on notice that the patient was violent. Yet, the *Larson* court found no duty to protect the nurse in that case. Other cases reach different results. But to be safe, it is best to assume that if a special relationship exists between the hospital and its patient — for example, a violent sexual predator transferred to the hospital from a local prison — that this special relationship of custody and control imposes a duty on the hospital to control the predator's conduct through proper application of restraints or otherwise.

And if a patient comes to the hospital and is unable to protect herself (either because she is sedated, incompetent, or physically unable to defend herself), then the hospital has an obligation to protect its patient because of this special relationship. But these cases always turn on specific facts, and a patient who is not sedated and able to protect himself might have a harder time in some courts making the claim.

The bottom line

The take-away here is that every hospital employee has a duty to look out for the facility's patients. Visitors in the hospital after hours (and in areas where they should not be, like store rooms) should be challenged. Suspicious behavior should be reported to security. Security should be called whenever there is any suspicion that someone is in the facility who does not have business there. Every employee is the eyes and ears of its organization, and those eyes and ears must be kept open to protect the patients. Protecting patients also protects the hospital! ■

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Opportunities Today and Tomorrow

by Thomas J. Kallstrom, MBA, RRT, FAARC

As you probably know by now, Sam Giordano, MBA, RRT, FAARC, retired in June of this year. We all have benefited from Sam's 30-plus years of strong and effective leadership and his patient-centric vision as the executive director and chief executive officer of the AARC. I have been privileged to be mentored by Sam and look forward to the tasks at hand as I assume this role with the AARC. I will continue to update our members through this monthly column, which will be called "Executive Office Update."

Our profession, in its 65-year history, has seen a wide variety of outcomes that have been good for our profession and our patients. Along with the good, so too comes the bad. There have been some very serious threats through the years, and we need to be ready to embrace the challenges that lie ahead.

Many of you "old timers" may remember when Joseph Califano Jr., U.S. Secretary of Health, Education, and Welfare (today known as the Department of Health and Human Services or HHS) testified before Congress in May of 1977 that "Hospitals report that as many as 20%–30% of patients receive inhalation therapy and there is limited evidence to support the widespread use of such procedures." He noted that about $500 million could be saved by eliminating inhalation therapy procedures. This, of course, brought about an uproar from the AARC community. A coordinated response, which incidentally was before the use of personal computers and email, ensued via a letter-writing and phone campaign. Within a short period of time, Califano publically reversed his outlook. At the end of the day it was the voice of the respiratory therapist and AARC that was heard. This threat was significant because it came personally from the top. This may have been a wake-up call for the profession.

Time to face reality

Today we are faced with more than just rhetoric. Now the reality is there will continue to be tightened reimbursement from Medicare, Medicaid, and third-party payers. Hospital administrators are looking for ways to save the bottom line. And all too often the easy way to deal with this is to cut into the hospital's biggest financial liability: human resources, or simply put, staff. The number of consultants engaging with hospital leadership is growing. If they call on you, then you will need to provide evidence that your department operations are consistent with the standard of care and run with utmost efficiency.

Currently, 75% of all practicing respiratory therapists are employed in hospitals. Thus, the impact of any staff reduction certainly would impact practice in a larger proportion of respiratory therapists in a place they are found in large numbers, the hospital. The challenge is ensuring that RTs can provide the most efficient care to the patients who need it. Protocolized care has been proven to reduce unnecessary procedures while allowing the respiratory therapist the capability to provide therapy that is more aligned with accepted guidelines, clinical practice guidelines, and evidence-based care. When utilized correctly, outcomes have reduced admissions to the hospital and, if admitted, a reduced length of stay.

Another looming threat, or perhaps a better word would be opportunity, can again be found in the hospital. The Affordable Care Act will impact patient populations cared for by the respiratory therapist. Hospitals will be

about the author...

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The wheels are turning; and on Oct. 1 financial penalties will be imposed for patients with a diagnosis of heart attack, heart failure, or pneumonia who readmit to the hospital.

penalized for readmissions for COPD, pneumonia, congestive heart failure, post-op coronary artery bypass surgery (CABG), and for patients readmitted after a heart attack. The wheels are turning; and on Oct. 1, 2012, financial penalties will be imposed for patients with a diagnosis of heart attack, heart failure, or pneumonia who readmit to the hospital. COPD and CABG post-op surgery patients will likely be subject to the same penalties in 2014.

Why is this significant?

Today, according to HHS, 13% of patients are readmitted to the hospital at a cost of $12 billion annually. HHS considers these readmissions preventable. Ultimately, preventing readmission will be the responsibility of the patient and their caregivers. So what is the opportunity? Disease management. By better preparing patients for discharge by teaching them the correct self-management techniques, the chances for success will be greatly increased. And this must start at the time of admission.

Disease management opportunities abound for respiratory therapy department leaders. This glass-half-full scenario provides RTs an opportunity to develop and implement disease management programs starting in the hospital. There are a number of published success stories that describe the talents of the respiratory therapist in hospital- and home-based disease management programs that focus on chronic lung diseases like asthma and COPD. Teaching patients how to use their aerosol or oxygen delivery device should start in the hospital. Self-management should also include teaching the patient how to assess their condition and how to react should it change. This can be done with written action plans that are useful — and not just for patients with asthma.

Who is going to drive the bus?

Finally, one of the key features of success in chronic disease management is the ability of the patient to communicate with the health care professional post discharge. We can accomplish this by periodically calling or visiting the patient or by having a call center where the patient can call when they have questions. Ultimately, outcomes should be used to determine effectiveness and quality of the program.

Disease management will play a huge role in the future of health care. Now is the time for respiratory therapists to embrace this concept and be the leaders. By implementing chronic disease management programs that focus on the patient with chronic lung disease, their chances for readmission to the hospital should be positively impacted. Who else is better for "driving the bus" on this effort than the respiratory therapist? ■

End-of-Life Management of the Ventilator Patient in the Acute Care Hospital

by Keith D. Lamb, RRT

As technology, management strategies, and our overall ability to delay the inevitable constantly improve, our patients are living longer. Often these patients spend their last few days or hours in a "holding pattern," being supported on mechanical ventilation while their wishes and advanced plans and directives are sorted out by family and ICU staff.

It is important that this time is spent wisely by caregivers and that a solid informed plan is formulated so that when the time comes to withdraw support, it can be done in a way that avoids pain and discomfort. If adequate planning is not accomplished, the result can be excessive secretions causing Cheyne-Stokes respiration, inadequate sedation allowing increased anxiety, inadequate analgesia allowing excessive pain, and the appearance of respiratory distress.[1]

It has been suggested that end-of-life care generally has become a highly specialized area of practice. Health care providers should be, at the very least, exposed to its nuances early in their education and optimally should be experts in its application just as in other areas of intensive care management.[2,3] Not only do these studies imply that end-of-life care is an area of care that needs specific training and attention, they also suggest that end-of-life care does not stop with the death of a patient but rather is carried out after death in terms of caring for family members and ICU staff.[3]

While factors driving the decision to withdraw mechanical ventilation from a dying patient are often unclear, studies have revealed that the single most important and relevant determinant used to make this end-of-life decision is the perception that the patient would not want to be maintained on life support.[4]

about the author...

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Patients often die with distressing symptoms while receiving high intensity care. Americans expect cutting-edge care and support; but when these therapies fail, they value other outcomes just as much, including symptom control during the dying process.[5]

Anticipate distressing symptoms

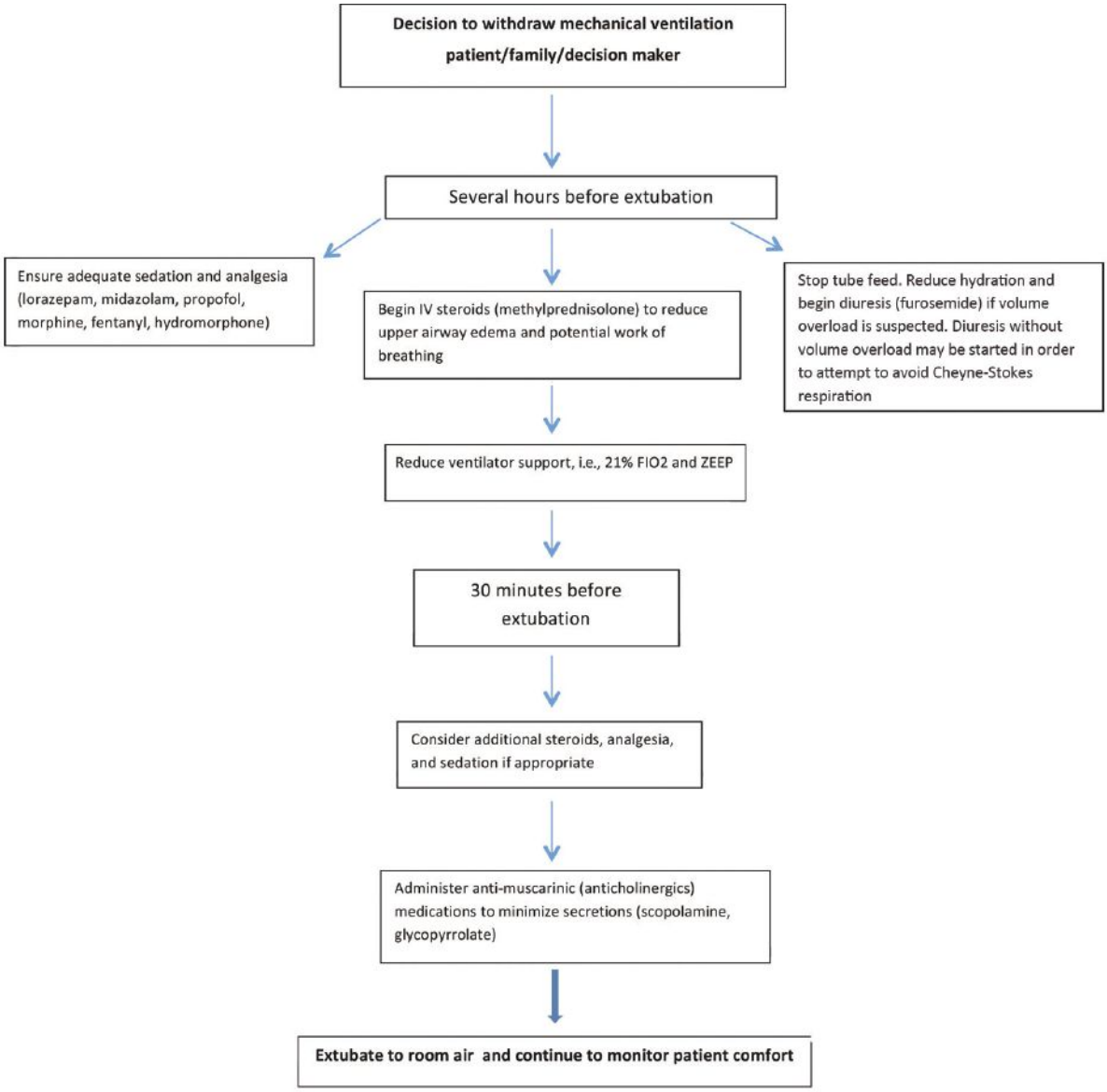
Health care providers have an ethical obligation to anticipate distressing symptoms and to be prepared to react to and treat them. These symptoms include anxiety, dyspnea, pain, stridor, and excessive secretions. Many recommend approaching this in two phases. During the first phase all feeding is stopped, fluid administration reduced, and diuresis begun for those who may be volume overloaded. During the second phase, sedatives, opiates, and steroids are started in order to avoid anxiety, pain, and airway edema/stridor.[1]

An example of how prevention of these distressing symptoms can be carried out is illustrated in the flow chart. (Figure 1)[1]

Sedation: Appropriate sedation is paramount in order to prevent unnecessary anxiety during the extubation process. This is particularly important when the patient is neurologically intact. Most ICU patients who are intubated and undergoing mechanical ventilation are already receiving anxiolytic medications. Titration of these medications is often needed during the dying process in order to maintain a calm patient and, in turn, calm family members. Propofol and benzodiazapines (midazolam, lorazepam) are commonly used for this purpose.

Analgesia: Just like sedatives, analgesia medications are also commonly used in intubated, mechanically venti-

Figure 1. Prevention of distressing symptoms in terminal patients



lated patients. Opiates are reasonably effective at relieving dyspnea, which is often associated with withdrawal of ventilator support. These medications should be titrated to prevent pain caused by indwelling catheters and previous procedures. Popular choices for analgesia are morphine, fentanyl, and hydromorphone. Like the sedation medications above, these are often already being infused and simply require some titration to ensure comfort.

Nutrition: Enteral nutrition should be stopped and parenteral IV administration of fluids should be minimized in order to prevent volume overload and associated respiratory distress symptoms.

Steroids: Steroids have been shown to reduce upper airway edema, which is the number one cause of post-extubation stridor. Upper airway edema and stridor create discomfort and dyspnea. Steroids can significantly reduce the potential for these sequelae. Generally, methylprednisolone is used and started both several hours ahead of time and again a half an hour or so before extubation.

Diuretics: Diuretics can be given to prevent airway secretions (i.e., Cheyne-Stokes respiration) that lead to dyspnea and an increase in work of breathing. These should be given to any patient who is volume overloaded but

can be empirically given to anyone undergoing end-of-life withdrawal of mechanical ventilation. Furosemide is often started several hours before extubation, especially when there is evidence of volume overload.

Antimuscarinics: Antimuscarinics (anticholinergics) can be administered to reduce the production of oral secretions, which are often times the cause of upper airway obstruction and acute distress during the dying process. Glycopyrrolate and scopolamine are very commonly used.

Other ethical considerations

It is estimated that 75% of ICU deaths occur due to the decision to withdraw life-sustaining support.[4] This decision is not taken lightly, and it is a constant struggle for health care providers to maintain a balance between providing a dignified, painless and minimally stressful dying process for both patient and family, while at the same time struggling with the knowledge that these same interventions may at the same time hasten one's death. The important ethical issues pertinent during this struggle are:

1. the difference between allowing patients to die in accordance with their own wishes and causing them to die,
2. the fine line between respecting a patient's wish to die with dignity and the risk of subsequent allegations of euthanasia or physician-assisted suicide, and
3. the adjunctive use of medications that simultaneously provide comfort but also may hasten one's death.[4]

A constant review of this process as well as timely discussions with patients, family, and other health care providers and staff should occur often. This will ensure the best opportunity for allowing our patients to die in a dignified and distress-free manner while maintaining the ethical integrity we all strive to possess.

Still some controversy with adjuncts

Different versions of the flow chart are used in many centers across the country and around the world. Although there is no strong evidence supporting the use of such tools, there is consensus that having a good plan and avoiding haphazard withdrawal of life supporting therapies reduces anguish, suffering, and distress of both the dying and their caregivers and loved ones.

There is some controversy regarding the use of adjuncts during this process, such as nasopharyngeal and oropharyngeal airways. Some believe that the use of such adjuncts prolong the life and potential suffering of their patient and avoid such interventions. Others see these adjuncts as important methods of avoiding such distress and discomfort of both the patient and surrounding loved ones while at the bedside.

The following is a typical scenario.

Mr. Jones was a 78-year-old man who was taking coumadin for chronic atrial fibrillation. He was living alone in a single-story home when he tripped on the living room carpet and hit his head on a coffee table. When his neighbors noticed his newspaper from the day before still on the front lawn, they went to check on him and found Mr. Jones unresponsive on the living room floor and called 911.

Pre-hospital personnel intubated Mr. Jones and took him to a large nearby emergency department where he was evaluated for a massive intracranial hemorrhage, taken to the operating room for a craniectomy, and admitted to the surgical ICU. His Glasgow Coma Score upon ar-

rival was a 6. After several uneventful days in the ICU, and with no signs of neurologic improvement, the family was approached about making a decision between performing a tracheotomy or withdrawing life support. Knowing that Mr. Jones would not want to live with such neurologic deficits, and having advanced directives that stated the same, the decision was made to withdraw support.

After the appropriate physician orders were provided, the ICU team prepared for withdrawal by first stopping his enteral feeding. The patient was already receiving continuous midazolam and fentanyl infusion, which was continued. He was given 80 mg of furosemide and 100 mg of methylprednisolone. Approximately six hours later he was given 20 mg of scopolamine and another 100 mg of methylprednisolone. Thirty minutes later, after thorough tracheal and oropharyngeal suctioning, Mr. Jones was extubated to room air. Mr. Jones passed away after 45 minutes without any signs of distress. ■

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Examining the Evidence for Using SABAs and LABAs

by Scott Cerreta, BS, RRT

Beta-2 agonists have long been a staple of respiratory therapy, providing almost immediate relief to patients in many different environments, from the ambulance ride to home after discharge and everywhere in between. It might seem that the use of this class of medication is straightforward, but the fact is that there is a lot the respiratory therapist can learn.

This article will discuss three groups of beta-2 agonists — short-acting beta agonists (SABAs), long-acting beta agonists (LABAs), and the newest, 24-hour ultra-long-acting beta agonists (ultra-LABAs). Also discussed will be the information needed to recommend the best agent for the intended situation whether it is for maintenance therapy or during treatment of an exacerbation. See Table 1 for a list of medications in each group.

Exploring the mechanism of action

The mechanism of action inside the cell is the same for all beta-2 agonists. As the drug binds to a beta-2 receptor located on a smooth muscle cell wall, a reaction is set in motion. The g-protein effector system slides and activates adenylyl cyclase, as seen in Figure 1. This converts adenosine triphosphate (ATP) to cyclic adenosine monophosphate (cyclic-AMP) and results in smooth muscle relaxation.[1] This pathway is part of the sympathetic nervous system. While beta-2 agonists have the same reaction inside the cell, how they bond to the beta-2 receptor differs.

The cell wall is comprised of a phospholipid (fatty) bi-layer membrane. Outside the cell is an aqueous (watery) space. The beta-2 receptor permeates the cell wall. Beta-2 agonists are inhaled and travel through layers of bronchial wall tissue before they reach smooth muscle. The shape and size of a drug molecule has several effects on the receptor site. SABAs are compact, fast travelers and hydrophilic (water loving). LABAs and ultra-LABAs are bulky, slow travelers and contain a lipophilic head (fat loving).

SABAs contain a head that forms a bond with the beta-2 receptor. The remaining portion of the drug molecule is exposed to the aqueous elements. This is like the freeway in rush hour. Lots of traffic and motion will cause the agonist to break its bond with the receptor and wash away. A typical duration of action lasts four to six hours. LABAs and ultra-LABAs feature a tail that inserts itself into the fatty cell membrane. The drug slides along the cell wall until it locates a beta-2 receptor. Two bonds are formed; the head forms a bond with the receptor and the tail inserts into the exosite of a cell wall that anchors the beta-2 agonist.[1] Because the bulky portion of LABAs and ultra-LABAs are subject to the same busy aqueous layer traffic, they frequently pop off the beta-2 receptor and deactivate the bronchodilator response. However, when that bond breaks, the drug does not wash away immediately. LABAs and ultra-LABAs repeatedly reform a bond with the beta-2 receptor as seen in Figure 2. The duration of action lasts 12 hours for LABAs and 24 hours for ultra-LABAs. Learning the mechanism of action is critical to understanding how drugs behave and why some beta-2 agonists produce a longer bronchodilator response. Arguably more important to understand, evidence reveals limitations for each group of beta-2 agonists in treatment of certain diseases.

about the author...

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Treatment concerns for asthma

Asthma is a chronic inflammatory disease of airways, which is fully reversible and episodic. For treatment of asthma attacks (or exercise-induced asthma), current guidelines from the Global Initiative For Asthma[2] recommend a SABA as needed for all steps in the stepwise approach to asthma care and management. Step 2 therapy

Table 1. Commonly Used Beta Agonists

U.S. Trade Name	Generic Name	Inhaler*	Nebulizer	Duration of Action
Short-Acting Beta-Agonists (SABAs)				
Ventolin	albuterol	M	✓	4-6 hours
Proventil	albuterol	M	✓	4-6 hours
ProAir	albuterol	M	N/A	4-6 hours
Combivent	albuterol + ipratropium	M	✓	6-8 hours
Xopenex	levalbuterol	M	✓	6-8 hours
Maxair	pirbuterol	M	N/A	4-6 hours
Duo-Neb	albuterol + ipratropium	N/A	✓	6-8 hours
Long-Acting Beta-Agonists (LABAs)				
Serevent	salmeterol	M	N/A	12 hours
Advair	salmetrol + fluticasone	M / D	N/A	12 hours
Foradil	formoterol	D	N/A	12 hours
Perforomist	formoterol	N/A	✓	12 hours
Symbicort	formoterol + budesonide	M	N/A	12 hours
Brovana	aformoterol	N/A	✓	12 hours
Arcapta	indacaterol	D	N/A	24 hours

*Inhalers are available as M = MDI (metered-dose inhaler) or D = DPI (Dry Powder Inhaler)

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includes the addition of low-dose inhaled corticosteroid (ICS). Step 3 treatment includes the addition of a LABA with low-dose ICS. Step 4 includes LABA with medium or high-dose ICS. Step 5 includes the addition of low-dose oral corticosteroids. It is not uncommon for people with asthma to have periods where no controller therapy is required.

LABAs and ultra-LABAs feature a boxed warning for increased risk of morbidity and mortality when used as mono therapy for the treatment of asthma.[3] Long-term use of these drugs causes downregulation[1] of beta-2 receptors and has been shown to change the structure of beta-2 receptors to a low-affinity binding state. This is known as desensitization[4] or bronchodilator tolerance.[5,6] Inflammation may also be a contributing factor to this effect.[1] It should be noted that inhaled corticosteroids have several positive effects in addition to decreasing airway inflammation. Inhaled corticosteroids stimulate upregulation of beta-2 receptors and return them to a high-affinity binding state.[1] However, in treatment of uncontrolled asthma, there is conflicting evidence regarding the efficacy of adding a LABA or doubling the dose of the ICS.[7-11] This explains why LABAs are no longer used without ICS for treatment of uncontrolled asthma symptoms. The increased risk of morbidity and mortality is unique to asthma and has not been shown to occur in COPD.

Treatment concerns for COPD

COPD treatment is different. This is a chronic, progressive disease with persistent symptoms that worsen over time. Airway reversibility is incomplete; and once a person loses lung function, they do not regain that full function even on their best days. This air flow limitation is due to the physical injury of both airways and lung tissue. The goal of maintenance therapy for treatment of COPD is to use the least amount of medication to keep patients at their baseline lung function throughout the day and night, while minimizing risk of side effects and exacerbation. In this respect, LABAs and ultra-LABAs have a more significant role in the maintenance treatment of COPD.

For a person with COPD, lung function (as measured by FEV_1 throughout the day) will have peaks and dips as seen in Figure 3. Peaks occur shortly after drug administration. SABAs wear off faster, and dips in FEV_1 occur more frequently and steeper compared to LABAs and ultra-LABAs. Symptoms are more likely to occur at these times. When a patient takes another dose of a SABA, the FEV_1 peaks back toward baseline. Optimal control of symptoms is designed to minimize these dips throughout a 24-hour period. LABAs and ultra-LABAs have several advantages here. Less frequent dosing is more effective and convenient than

Figure 1. Mode of action by which stimulation of the G protein-linked beta receptor by a beta agonist causes smooth muscle relaxation

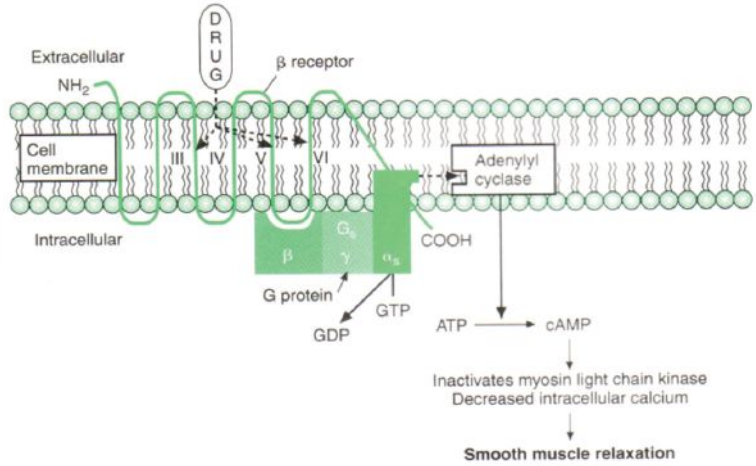

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Figure 2. Mode of action by which salmeterol, a long-acting beta-2 specific bronchodilator, interacts with the beta receptor by means of an exosite anchor with the lipophilic side chain, allowing continual stimulation of the active receptor site

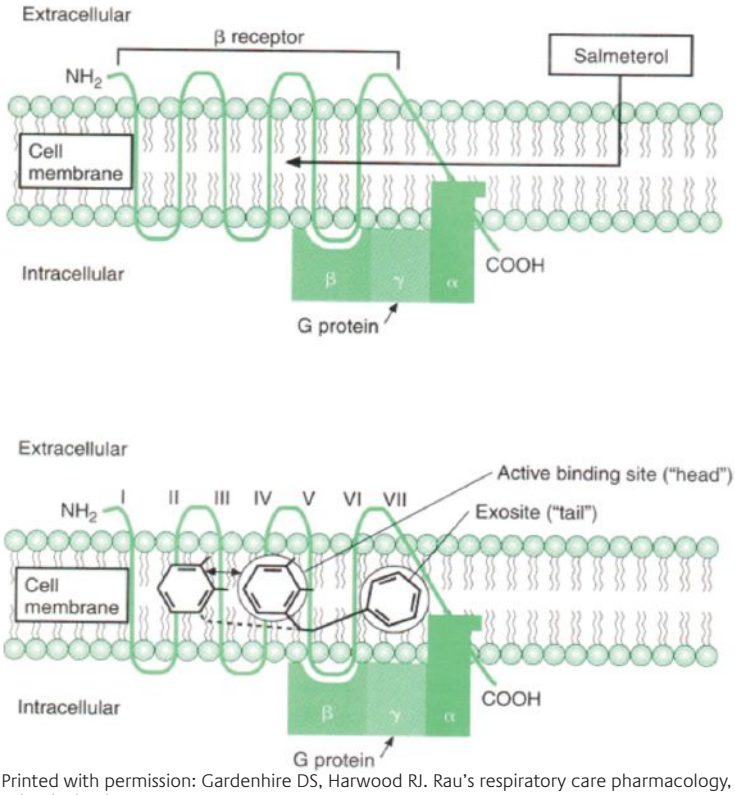

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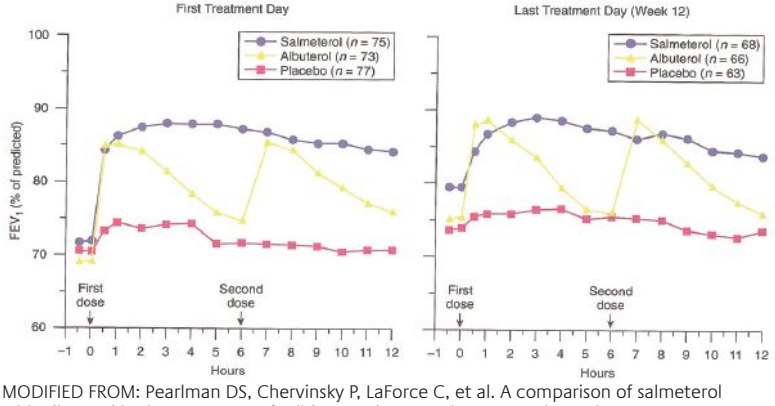
Figure 3. Mean FEV_1 response and duration of effect for inhaled salmeterol 42 μg twice daily, albuterol 180 μg four times daily, and placebo



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SABAs.[12,13] The ultra-LABA group is seemingly best for maintenance therapy. The caution here is that maintenance therapy with controller medication does not give the immediate satisfaction and relief of acute symptoms that SABAs are known for. Therefore, this may lead to a lack of adherence over time, which results in poor symptom control.

This discussion would not be complete without mentioning that the addition of anticholinergic bronchodilators and inhaled corticosteroids play an important role in treatment of COPD,[14,15] especially in the frequent COPD exacerbator.[15,16] Evidence reveals that a combination of beta-2 agonists and anticholinergics produce a greater FEV_1 response than using either drug alone.[17,18] Three medications have been proven to decrease COPD exacerbations and should be considered for those individuals:

- Combination LABA/ICS (salmeterol/fluticasone or formoterol/budesonide)
- LABA plus the long-acting anticholinergic (tiotropium)
- New class PDE-4 inhibitor (roflumilast).

The role of the RT

In summary, respiratory therapists are responsible for educating patients on several aspects of inhaled medications. Adherence to therapy based on effective education is paramount. The basis of longstanding adherence is a solid understanding — on the part of the patient — of how medications work. Equally important is a discussion of the consequences of non-adherence. Indeed, a patient with moderate COPD and few nighttime symptoms prescribed a SABA to use four times daily and who adheres to therapy will have improved symptom control compared to a patient prescribed an ultra-LABA who does not take the medication daily as prescribed. Furthermore, failure to rinse the mouth after administration of LABA/ICS combination may cause side effects like thrush that discourage a patient from using the medicine and adhering to therapy.

The therapist must recognize and educate patients regarding differences between acute care and maintenance therapy. As a patient recovers from an exacerbation, the number of medications used at home should be reduced to minimize side effects. Another key teaching point is device technique. Each inhalation device is different, and pa-

tients must understand how to take the medicine correctly. Poor technique, especially prevalent in elderly COPD patients, will result in poor symptom control and more frequent FEV_1 dips. In this regard, nebulized therapy is now recommended over inhalers for domiciliary care.[19]

Lastly, we need to encourage patients to develop a relationship with their physician to maintain optimal care for their specific disease state by being honest about inhaler use and freely asking questions. Then, and only then, will RTs be fully empowered to recommend the best beta-2 agonist for optimal disease control. ■

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Clinical Perspectives

Exercise-related Asthma in the 21st Century

By Christopher Randolph, MD

Exercise-induced bronchoconstriction (EIB) is defined as a transitory constriction of the lower airways following strenuous exercise.[1,2] Individuals present with respiratory symptoms of cough, wheezing, chest tightness, or symptoms associated with strenuous exercise.[3,4] However, symptoms alone are not a reliable indicator for the diagnosis of EIB, as exercise-induced bronchoconstriction has been diagnosed by questionnaire in individuals with well-controlled asthma,[5] and even those with symptoms associated with EIB may not have the condition.[6-9]

Epidemiology

EIB is diagnosed or recognized in up to 80% of asthmatics:[10] 50% of those with allergic rhinitis, 50% of elite athletes, and 20% of schoolchildren.[1,2,11] EIB is reported in up to 3%–8% of children in urban areas and 4% of rural children.[12] In studies in Australia, EIB has been documented in up to 19.6% of schoolchildren, 40% of whom had no previous asthma diagnosis.[11]

In a recently published survey of children diagnosed with asthma or taking medications for asthma in the prior year, 47.4% of parents noted that their child experienced four or more symptoms of EIB.[13] In the same survey conducted in adults, 29% recorded one or more of six respiratory symptoms associated with EIB.[14] There is a high prevalence of up to 17.6% in Olympic athletes participating in winter sports and up to 15.3% in those participating in cycling and summer sports.[15]

EIB has also been documented in 17% of scuba divers with a history of asthma but who were on no medications, had no recent symptoms, and were regarded as medically suitable for diving.[10] One study conducted in Wales over a 30-year period found EIB increased between 1973 and 1988 and decreased between 1988 and 2003.[16]

about the author...

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Pathogenesis

The decline in FEV_1 may begin during exercise but usually reaches its nadir 5–12 minutes after the completion of exercise.[17] This decline in FEV_1 may be associated with a decline in oxygen saturation and pulmonary hyperinflation.[18] Recovery of FEV_1 develops spontaneously within 30–60 minutes after EIB.[1] Repeat exercise within four hours leads to a refractory period in 50% of individuals.[18]

The stimulus for EIB is evaporation of water from the airways, which occurs in the process of conditioning large volumes of air over a short period of time. The loss of water leads to airway cooling and dehydration of the airway surface. When exercise is conducted with inhalation of hot, humid air, there is a marked reduction or complete inhibition of EIB.

The most widely accepted osmotic hypothesis postulates that the hyperosmolar environment created by water evaporation leads to a mediator release from mast cells and possibly from sensory nerves.[19,20] The mediators act on the bronchial smooth muscle, leading to contraction with airway narrowing. Epithelial and glandular cells, as well as sensory nerves in the airway, are affected by airway cooling and the osmotic impact of water evaporation.[21]

In competitive athletes taking part in repeated strenuous activity, airway injury occurs as smaller airways are affected in the air conditioning process, leading to dehydration injury to the airway epithelium, with plasma exudate during the restoration from injury. Repeated exposure to plasma exudate leads to alteration in muscle contraction, with an increase in airway hyperreactivity to agents such as injury or methacholine. Repeated exposure may precipitate EIB as well.[21,22]

This airway hyperresponsiveness may be seen in endurance athletes, particularly in cold weather settings,[22,23] in swimming pools,[24-26] or with infection.[26] To minimize the potential for airway injury and hypersensitivity, athletes are advised to cease training in environments in which allergens or irritant levels are high.[27-29]

Diagnosis: exercise challenge

The clinical practice guidelines for diagnosing and managing asthma from the National Asthma Education and Prevention Program (NAEPP) should be utilized to diagnose asthma severity based on spirometry.[30] The diagnosis of asthma is made by pre- and post-bronchodilator spirometry. If there is no response to bronchodilator, then exercise challenge is conducted with at least a 10% decline in FEV_1 or peak flow being diagnostic of EIB.[1,2] (See Table 1.)

In one study, almost half (47.4%) of parents reported that their children with diagnosed asthma had four or more symptoms of EIB, including coughing, wheezing, and shortness of breath. Thirty percent of these parents said symptoms of EIB limited their child's participation in sports, 26.3% cited limitations in other outdoor activities, and 20.9% cited limitations in normal physical activity.[13] Although more than 80% of adults with asthma in the same survey had symptoms of EIB, only 30.6% indicated a diagnosis of EIB. However, 45.6% avoided physical activities because of impairing symptoms.[14] Of course, self-reported history is not reliable for a diagnosis of EIB, and objective testing with pulmonary functions is necessary.[1,6,31]

Exercise testing is optimally performed at less than 23°F and less than 50% relative humidity (<10 mgs water per liter), and requires strenuous exercise encompassing six minutes (in children) and eight minutes (in adults) of activity at 85%–95% maximum heart rate or at respiratory minute ventilation of 21 times FEV_1.[17,32] Running on a treadmill, which can be monitored for cardiorespiratory effort, is preferred over cycling because of a more rapid enhancement of ventilation with running. A dry air source is optimal. The natural variation in exercise challenge may result in a negative finding that will turn into a positive finding within a few days under the same conditions.[17] Proper intensity of effort with observation of the cited cardiorespiratory parameters, temperature, and relative humidity is crucial to an optimal exercise challenge. Sports-specific challenge and free running are alternative forms of challenge but are less optimally controlled.

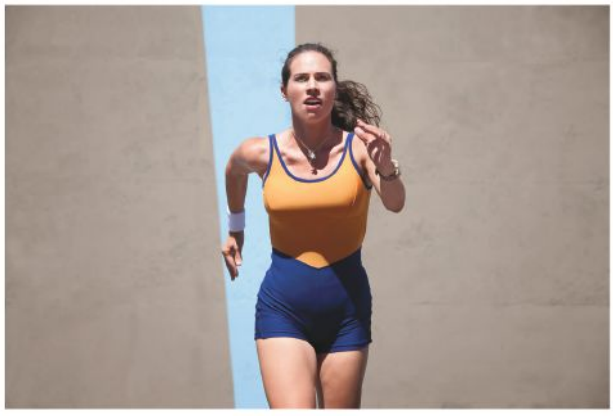

Table 1. Diagnosis

1. Pulmonary function testing pre- and post-bronchodilator
2. Exercise challenge: direct exercise (i.e., treadmill, cycle, free running, or sports-specific challenge)
3. Exercise challenge surrogate: mannitol, EVH

Diagnosis: surrogate challenges

Since exercise challenge requires the ability to exercise, other surrogate testing methods have developed to minimize these requirements. Surrogate challenges include those that employ hyperventilation, such as eucapnic voluntary hyperventilation (EVH) or dehydration with a hyperosmolar environment such as mannitol.

EVH is the approved test for the International Olympic Committee. It consists of inhalation at 30 times FEV_1 of a fixed dry air mixture of 4.9%–5.0% CO_2 and 21% O_2, with the remainder consisting of nitrogen (74%). The test is based on the concept that hyperventilation of dry air at rates of 30 times FEV_1 — well above that reached in exercise (up to 21 times FEV_1) — will result in a low level of false negatives. EVH is widely used to evaluate elite athletes for EIB and has diagnosed EIB in previously undiagnosed elite athletes. The clinical diagnosis was not consistent with the test outcome in many of these athletes.[33]

The disadvantages of EVH include sore throat from the hyperventilation; a low resistance is also necessary if subjects are to reach their maximum ventilation. There is no dose response curve for exercise or, generally speaking, for EVH either, as both utilize a maximum single stimulus allowing for severe decrements in FEV_1 (>30% from baseline) to develop.[2]

Mannitol challenge, which is newly approved in the United States, provides a graduated hyperosmolar challenge that is a surrogate for exercise. It minimizes the de-

cline in FEV_1 and does not require exercise so it is easily performed in an office setting. Mannitol is a dry-powder challenge encompassing inhalation of increasing doses of the powdered agent. FEV_1 is measured 60 seconds after inhalation, with measurements repeated throughout the challenge. The challenge continues until 635 mg is achieved or there is a decline in FEV_1 by 15% overall or 10% between successive doses, as indicated in the kit instructions.

The Aridol test kit (Pharmaxis, Exton, PA) includes an inhaler and prepackaged capsules.[34,35] The 15% fall from baseline criterion for positivity avoids the 30% decline seen with exercise and EVH.[35] The measure utilized to assess the sensitivity of mannitol is the provocative dose to produce a 15% decline in FEV_1 (PD15). The measure utilized to determine reactivity is the response dose ratio (RDR). The RDR is calculated by dividing the FEV_1 decline by the dose of mannitol required to achieve the decline. The RDR and PD15 are compared with the subject's responses to exercise challenge or EVH.

Repeatability of mannitol is 1.1 doubling doses.[36] While atopic subjects most commonly test positive, mannitol positivity is noted in nonatopics as well. The mannitol positivity indicates the potential for exercise-induced bronchoconstriction, while the RDR and PD15 indicate the severity.[37,38] When compared to exercise challenge, mannitol had sensitivities of 64%, 75%, and 83% to detect EIB with FEV_1 decreases of 10%, 15%, and 20%, respectively. The frequency of mannitol 15% decline in FEV_1 was 1.65 times that of the same decline with exercise.[35]

Prevention

Controller therapy with inhaled steroids, as recommended in the NAEPP guidelines, is appropriate for persistent asthma.[30] (See Table 2.)

Prevention of EIB is accomplished by utilization of an inhaled short-acting or long-acting beta agonist.[39-41] The inhaled beta agonist inhibits EIB by stimulating beta-2 receptors at the mast cell surface, thus blocking mediator release and inhibiting contraction of smooth muscle by mediators such as histamine, leukotrienes, and prostaglandin D2 (PGD2). However, repeated daily use of beta agonists leads to tolerance both at the mast cell and smooth muscle, usually within one week.[1,2] Simultaneous use of corticosteroids does not prevent tolerance.

Tolerance can be defined as a decline in the duration of protection to two hours for a short-acting agent and four to six hours for a long-acting beta agonist.[42] The time to recovery of FEV_1 to baseline after an asthma episode is longer as well. The dose needed for rescue is higher in individuals taking an inhaled beta agonist on a daily basis,[43,44] and EIB is documented to be more severe after daily inhaled beta agonist use.[45] Tolerance is postulated to occur because of down-regulation of the beta-2 receptors, resulting in a diminished number of receptors on the mast cell surface so that mediator release is no longer blocked after a few hours.[46,47]

In the clinical setting, individuals with asthma who use albuterol daily are advised to take additional doses to overcome tolerance. However, this practice perpetuates the tolerance. Tolerance does not develop to intermittent use of inhaled beta agonists up to three times per week. In a recent survey of children with asthma with known respiratory symptoms, only 23% took albuterol.[13] However, in another study, 22% of adults took albuterol always or most of the time.[14] Complete responsiveness to the beta agonist can be restored by discontinuation of therapy for 72 hours.[48]

Other agents that can serve as a prophylaxis against EIB, though not with complete protection as with albuterol, include leukotriene modifiers (which inhibit specific leukotriene synthesis) and 5 lipoxygenase inhibitors (which block the entire leukotriene pathway). The most widely used leukotriene modifier therapy is montelukast, which is administered in tablet form. Montelukast is advantageous compared to beta agonist therapy because

Table 2. Treatment

Nonpharmacological
- Conditioning to achieve physical fitness
- Avoidance of environmental triggers such as allergens, pollutants
- Pre-exercise warm-up
- Dietary sodium restriction
- Ascorbic acid
- Fish oil

Pharmacological, per NHLBI guidelines for chronic asthma
- Beta agonist
- Leukotriene inhibitors
- Cromolyn and nedocromil
- Ipratropium
- Inhaled steroids alone or in combination

For elite athletes
- EIB alone: limitation of activity, cross training
- Chronic asthma: NHLBI guidelines
- Beta agonists intermittently
- Inhaled corticosteroids alone or combination
- Mast cell stabilizers if available: cromolyn and nedocromil

there is no tolerance development. It had an onset of action of two hours, with duration of effect of 24 hours versus placebo in a recent study.[49] Montelukast enables recovery of FEV_1 to baseline and diminishes both the severity and duration of the asthma episode following exercise. However, montelukast provides only 60% protection against EIB, compared to complete protection with beta agonists, and the protection is variable with the user. Protection is defined by the recovery from the fall in FEV_1 with exercise.[50,51] There is no consensus on inhaled ipratropium, although it may be therapeutic in some individuals, particularly in conjunction with beta agonists.[1,2]

The combination of histamine and leukotriene antagonists has been reported to diminish the severity of the decline in FEV_1 and the duration of an asthma episode after exercise.[52] However, the results with histamine antagonists alone are inconsistent.[53,54] Mast cell stabilizing agents such as cromolyn and nedocromil sodium (which are only available outside the United States) have demonstrated a protective effect with a duration of less than three hours.[55] But unlike beta agonists, these agents have an immediate onset of action, permitting administration just prior to activity. These agents may be administered as needed and tolerance does not develop. Their primary mode of action is inhibition of release of PGD2 and leukotrienes.

Nonpharmacologic means to treat EIB include breathing warm air conditioned to body temperature or breathing with a mask and heat exchanger. Repeated exercise or submaximal exercise at less than 60% of heart rate may produce a refractory period that lasts up to two hours in up to 50% of those with EIB. Tolerance develops to the contractile impact of the mediators released in the initial episode of exercise.[56]

Chronic pharmacological therapy

While beta agonists are the most effective intermittent agent to provide complete protection against the decline in FEV_1 with exercise, inhaled corticosteroids are recommended for chronic or long-term therapy of EIB. Inhaled steroids, including budesonide, ciclesonide, and fluticasone, have been demonstrated to decrease the severity of EIB within 3–12 weeks.[57-61] The onset of protection is more rapid when higher doses are inhaled.[60]

Daily therapy with inhaled steroids is protective, particularly in those patients with normal spirometry who require a bronchodilator only prior to exercise. In those with less than optimal spirometry, combination therapy with a long-acting beta agonist and inhaled corticosteroid has been demonstrated to diminish the severity of EIB.[57,58] However, a recent study demonstrates that discontinuation of the long-acting beta agonist while continuing inhaled steroid therapy resulted in a diminished severity of EIB in children.[62] As inhaled corticosteroids are very effective as long-term therapy for asthma, repeated confirmation of EIB is needed to determine the ongoing need for a beta agonist prior to exercise.[1,2]

Dietary agents such as fish oil[63,64] and vitamins C and D have been reported to provide protection against EIB as well. However, these reports included only mild asthmatics. Dietary agents alone are not sufficient to provide protection against EIB. Non-pharmaceutical interventions have also included sodium restriction, conditioning, and warm–up to achieve a refractory period.[1,2]

Finally, physical fitness is essential for control of EIB, as exercise-induced bronchoconstriction occurs at a lower intensity of exercise in the physically unfit. In fact, some investigations have evaluated the effect of physical fitness on EIB. There is no consensus on whether physical training ameliorates EIB severity with studies showing improvement and others demonstrating no improvement.[1,2]

Summary

EIB occurs in individuals with clinically recognized asthma and elite athletes without known asthma. Exer-

cise challenges are variable and may be difficult to reproduce because they require the ability to exercise to uniform standards for provocation of asthma. Thus, surrogate challenges such as mannitol challenge and EVH are more appropriate for diagnosis. Therapy for EIB ranges from nonpharmacological interventions such as warm-up, use of face mask, and dietary interventions to pharmacological interventions like beta agonists, mast cell stabilizing agents, leukotriene modifiers, and inhaled steroids.

Beta agonists are the drug of choice for protection against mild intermittent asthma and remain the drug of choice for prophylaxis given before exercise and in tandem with long-term therapy with inhaled corticosteroids and/or montelukast. Nonpharmacological interventions such as a face mask, enhancing physical fitness, and repeated exercise or submaximal exercise may temporarily achieve refractoriness to exercise. ■

DISCLOSURE

Dr. Christopher Randolph is not affiliated with any of the products or companies mentioned in this article.

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Cast Your Ballot for the 24th Annual AARC Zenith Awards

The 2011 AARC Zenith Awards went to (from left): CareFusion, Daniel Woolson Draeger Medical, Sam Larson and Brad Saunders accepting; and Covidien, James E.

Each year the AARC presents five Zenith awards to the top corporations in the respiratory care industry at our annual International Respiratory Convention & Exhibition. They are considered the "people's choice" award of the respiratory care profession and are highly prized by the recipients, who proudly display them on their websites and in their Exhibit Hall booths.

But it is up to you to choose the five recipients. This is your opportunity to vote and thereby say "thank you" to your favorite industry team members… the companies who research and develop new products and enhancements to make life better for patients, who are just a phone call or email away when you need help, who stand behind their products — and their promises.

The AARC will present the 2012 Zenith Awards to executives representing the five winning companies when the Association convenes AARC Congress 2012 in New Orleans, LA, on Saturday, Nov. 10. Your vote could place your favorite company in the spotlight during this year's Awards Ceremony. Now, that's a great way to show them your appreciation for making your job easier.

accepting; Masimo Corporation, Steve Paul accepting; Philips Respironics, Dan Van Hise and Lauren Seymour accepting; Willett and David Giarracco accepting.

Top Companies Received 23rd Annual Zenith Awards

In last year's Zenith Award competition, we honored the following companies for reaching the pinnacle of excellence in service and support for the respiratory care profession: CareFusion, Covidien, Draeger Medical, Philips Respironics, and Masimo Corporation.

Get involved in choosing the recipients of this year's award by mailing your ballot card to the AARC today. ■

Your official ballot is attached next to page 32 of this issue. Cast your vote today and mail by Sept. 24.

Consider these voting criteria

When making your choice, evaluate the manufacturers, service organizations, and supply companies that have done the most outstanding job for you over the past year according to these criteria:

- Quality of equipment and/or supplies
- Accessibility and helpfulness of sales personnel
- Responsiveness
- Service record
- Truth in advertising
- Support of the respiratory care profession.

The following pages contain a list of companies serving the respiratory care markets. You may vote for up to 15 companies by circling your choices on the ballot card. Then, send in your ballot card as soon as possible, for your response must be postmarked by Sept. 24 to qualify as an official Zenith Award ballot. ■

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OFFICIAL BALLOT

The 24th Annual AARC Zenith Award Program

Select your favorite respiratory care companies from among those listed on pages 33-36. In making your selection, keep in mind the criteria listed on page 31.

To vote, detach the post card, read through the listings, and circle the corresponding number of your top 15 selections on the card. Don't delay! Ballots must be postmarked no later than **September 24, 2012**, to qualify.

Maximum number of circled companies allowed is 15.

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379	380	381	382	383	384	385							

Name _____ Employer _____

MAIL BY SEPTEMBER 24, 2012

Maximum number of circled companies allowed is 15. Only original Official Ballots will be accepted.

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Cast Your Ballot for the
24th Annual Zenith Awards

2012 Zenith Award Nominees

You may vote for up to 15 companies by circling your choices on the ballot card. Your response must be postmarked by Sept. 24 to qualify as an official Zenith Award ballot.

1 3M Pharmaceuticals
2 A Plus Medical
3 A-M Systems
4 Abbott Point of Care
5 AccuTest
6 Advanced Aeromedical Inc.
7 Advantage Medical Systems
8 Aerocrine Inc.
9 Aerogen
10 Aerolung Corp
11 Afton Medical LLC
12 AG Industries
13 Air Lift Oxygen Carriers
14 Air Liquide Healthcare America Corp
15 Air Products
16 Airborne Life Support Systems
17 Airgas Puritan Medical
18 Airon Corporation
19 AirSep Corporation
20 Airtraq
21 Alere
22 Alliance Tech Medical Inc.
23 Allied Healthcare Products Inc.
24 Ambu Inc.
25 Ambu Sleepmate
26 Ambulatory Monitoring Inc.
27 American Innovative Research Corp.
28 Amvex
29 Aptalis
30 ARC Medical Inc.
31 Armstrong Medical Industries Inc
32 AstraZeneca Pharmaceuticals LP
33 Austin Air Systems
34 Avalon Aire Inc.
35 Avery Biomedical Devices Inc.
36 B. F. Ascher & Co. Inc.
37 B&B Medical Technologies
38 Baeta Corp.
39 Baitella AG
40 Baxter
41 Bay Corporation
42 BC Decker Inc.
43 Beevers Mfg & Supply Inc.
44 Beijing Choice Electronic Technology Co., LTD
45 Beijing Vanbonmed Co. Ltd.
46 Besmed Health Business Corp
47 Beta Biomed Services Inc.
48 Bio-Med Devices Inc.
49 Bio-Medical Devices International
50 Biological Controls Inc.
51 Biosense Inc.
52 Birchwood Laboratories
53 Birthways Inc
54 Boehringer Ingelheim Pharmaceuticals Inc.
55 Boehringer Laboratories Inc.
56 BOMImed
57 Boston Medical Products Inc.
58 Boston Scientific Corp.
59 Braebon Medical
60 Breas Medical Inc
61 Breathe E-Z Systems Inc.
62 Breathe Healthy
63 Breathe Technologies
64 Bridge-Tech Medical Inc.
65 Bullard
66 Bunnell Incorporated
67 Cadwell Laboratories Inc.
68 Caire SeQual
69 Cann-Ease Co.
70 Cardiac Science
71 Cardionics Inc.
72 Cardiopulmonary Corp.
73 CareFore Medical
74 CareFusion (formerly VIASYS Healthcare and Cardinal Health)
75 CASMED
76 Cavagna North America Inc.
77 CEA Instruments Inc.
78 Cenorin
79 Ceodeux Inc.
80 CHAD Therapeutics
81 Clement Clarke International Ltd.
82 CleveMed
83 Clinical Guard
84 Clippard Instrument Laboratory Inc
85 CME America LLC
86 ColdAvenger Facemask
87 Compumedics Ltd.
88 Cook Critical Care
89 CooperSurgical
90 Cornerstone Therapeutics
91 COSMED SRL
92 Covidien
93 Covidien (Massachusetts)
94 Cowman & Associates Inc.
95 CPR Medical Devices Inc.
96 Cramer Decker Medical
97 Creative BioTech Inc.
98 Creative Health Products
99 Criticare Systems Inc.
100 Dale Medical Products Inc.
101 Defibtech LLC
102 DeVilbiss Healthcare
103 Devon Medical Products
104 Dey Pharma L.P.
105 Discover Medical Devices
106 Discovery Laboratories Inc.
107 DME Data Solutions
108 Draeger Medical Inc.
109 Dymedix Corporation
110 Dymedso
111 Dynamic MT
112 ECO Physics Inc.
113 EKOM spol s.r.o.
114 Electromed Inc.

2012 Zenith Award Nominees *continued*

115 Emergent Respiratory Products Inc.
116 Engineered Medical Systems Inc.
117 EPER Ltd.
118 Epiphany Cardiography
119 Epocal Inc.
120 Equilibrated Bio Systems Inc
121 ErgoMed Inc.
122 Essex Industries
123 ETC - BioMedical Systems Group
124 Ethox International Inc.
125 eVent Medical
126 F. A. Davis Company
127 Faith Medical Inc.
128 Fisher & Paykel Healthcare Inc.
129 Flexicare Inc
130 Flight Medical Innovations
131 Flotec Inc.
132 Fluke Biomedical
133 Fordion Packaging LTD
134 Forest Pharmaceuticals Inc.
135 Freedom Vent Systems
136 Fukuda Denshi
137 Futuremed
138 FWF Medical Products
139 GaleMed Corporation
140 GCX Corporation
141 GE Analytical Instruments
142 GE Healthcare
143 Gems Medical Sciences
144 Genentech Inc.
145 General Biomedical Service Inc.
146 General Cardiac Technology
147 General Physiotherapy Inc.
148 Genstar Technologies Co. Inc. (GENTEC)
149 GF Health Products Inc.
150 Glenn Medical Systems Inc.
151 Global Medical Holdings
152 Grass Technologies, an Astro-Med Inc. Subsidiary
153 Grifols
154 Hamilton Medical Inc.
155 Hans Rudolph inc.
156 Health Educator Publications Inc.
157 Healthline Medical Inc.
158 Hi-Tech Medical
159 Hi-Tech Software Solutions
160 Hill-Rom
161 Hollister Incorporated
162 Hospira
163 Hsiner Co. Ltd.
164 Hutchinson Technology Incorporated
165 Hydrate Inc.
166 I Can Breathe! Inc.
167 I.V. League Medical
168 IDEM
169 Ikaria
170 Impact Instrumentation Inc.
171 Ingen Technologies Inc.
172 Ingenium Business Solutions
173 IngMar Medical Ltd.
174 INMABU
175 Innomed Technologies Inc.
176 Innovative Medical Marketing of Virginia
177 Inogen Inc.
178 Inova Labs LLC
179 Inspired Technologies
180 Instrumentation Industries Inc.
181 Instrumentation Laboratory
182 International Medical Inc. (IMI)
183 Intersurgical Inc
184 Invacare Corporation
185 Invivo
186 IPI Medical
187 IQ Valves
188 ITC
189 Jones & Bartlett Learning
190 Jones Medical Instrument Company
191 Karl Storz Endoscopy America Inc.
192 Kentec Medical Inc.
193 Kimberly-Clark Health Care
194 Kinetic Concepts Inc. (KCI)
195 King Systems Corporation
196 Kol Bio-Medical Instruments Inc
197 Koo Americas Inc.
198 KPMD IT Solutions Ltd.
199 La Mont Medical Inc.
200 Lamtic Inc.
201 Lazarus Medical LLC
202 Lippincott Williams & Wilkins
203 LM Software
204 LMA North America Inc
205 Louroe Electronics
206 LouSal Enterprises Inc.
207 Luxfer Gas Cylinders
208 MAQUET Inc
209 MarCal Medical Inc.
210 Maril Products Inc.
211 Marpac Inc.
212 Martab Medical
213 Masimo Corporation
214 Mavidon Medical Products
215 Maxair by BMDI
216 Maxlare
217 Maxtec
218 Medela Inc.
219 Mediaid Inc.
220 Medica Corporation
221 Medical Acoustics LLC
222 Medical Graphics Corporation
223 Medical Instrumentation Repair Inc.
224 Medical Support Products Inc.
225 MediServe
226 Medisize US
227 Meditrack Products
228 Medline Industries Inc.
229 Mercury Medical
230 MES Inc.
231 Methapharm Inc.
232 Michigan Instruments Inc.
233 Micro Direct Inc.
234 Midmark
235 Mindray Co. Ltd.
236 MIR Medical International Research
237 Mobile Medical Maintenance Co.
238 Modern Medical Systems Co.
239 Monaghan Medical Corporation
240 Morgan Scientific Inc
241 Mosby/Saunders-Elsevier
242 Nasorcap Medical Inc.
243 Natus Medical Incorporated
244 ndd Medical Technologies Inc.
245 NeoForce
246 Neotech Products Inc.
247 Nephron Pharmaceuticals Corporation
248 Newport Medical Instruments Inc.
249 Nidek Medical Products Inc.
250 Nightingale-Alan Medical Inc
251 Nihon Kohden America
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253 Nonin Medical Inc.
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2012 Zenith Award Nominees *continued*

256 Novartis Pharmaceuticals Corporation
257 nSpire Health
258 NuMask Inc.
259 Ocean Optics Inc
260 Ocelco Inc. Patient Aid Equipment and Parts
261 Ohio Medical Corporation
262 Olympus Surgical & Industrial America Inc
263 Omega Medical Products Corp.
264 Omneotech
265 Omron Healthcare Inc.
266 ONY Inc. Infasurf
267 OPTI Medical Systems Inc.
268 Oridion Capnography Inc
269 Oxigraf Inc.
270 OxyCare GmbH
271 OxySure Systems Inc.
272 Pall Medical
273 PARI Respiratory Equipment Inc.
274 Parker Hannifin Corporation
275 Parker Medical
276 Passy-Muir Inc.
277 Pedipress Inc.
278 Pentair Porous Media
279 Pepper Medical Inc
280 Percussionaire Corp.
281 Perma Pure LLC
282 Perry Baromedical Corporation
283 Pfizer Inc.
284 Pharmaxis
285 Philips
286 Philips Healthcare
287 Philips Respironics
288 Physio-Control Inc., a division of Medtronic Inc.
289 Pneuline Supply
290 Posey Company
291 Praxair Healthcare Services
292 Precision Diagnostic Services Inc.
293 Precision Medical Inc.
294 Pro-Tech Services Inc.
295 Product Technologies Design LLC
296 Pulmodyne
297 Queset Medical
298 R1 Technologies
299 Radiometer America Inc.
300 RAM Scientific
301 Ren-Lor Medical
302 ResMed Corp
303 RespCare
304 Respiralogics
305 Respiratory Delivery Systems
306 RespirTech
307 Respitech Medical Inc.
308 Responsive Respiratory Inc.
309 RMS Medical Products
310 RNA Medical, Division of Bionostics Inc.
311 Robbins Instruments Inc
312 Roche Diagnostics
313 Rochester Electro-Medical Inc.
314 RoMedLLC
315 Sage Products Inc.
316 Salter Labs
317 Sceti K.K.
318 Schiller America Inc
319 SDI Diagnostics
320 Sechrist Industries Inc.
321 Sensidyne LP
322 Sensirion Inc.
323 SenTec AG
324 Sibel S.A.
325 Siemens Healthcare Diagnostics
326 Simplicity Vacuums
327 Sleep Multimedia Inc.
328 Sleep Services of America Inc.
329 Sleepnet Corporation
330 SleepTech LLC
331 SLP Inc.
332 Smart Tap inc
333 Smiths Medical North America
334 Smooth-Bor Plastics
335 SOMNOmedics America Inc.
336 SonarMed Inc.
337 Southmedic Inc
338 Spacelabs Healthcare
339 Specialized Medical Services
340 Spiracle Technology
341 Spirometrics Medical Equipment Co.
342 SPO Medical Equipment Ltd.
343 Sporicidin by Contec Inc.
344 Stellate Systems
345 Sterling Respiratory Distributors
346 Strapparatus Corporation
347 Sunovion Pharmaceuticals Inc.
348 SunTech Medical
349 Tarpaw LLC
350 TeleDiagnostic Systems
351 Teledyne Analytical Instruments
352 Teleflex Medical
353 Tenacore Holdings Inc.
354 Thayer Medical
355 The Lee Company
356 The Nagel Network Inc.
357 The Remi Group
358 The ScottCare Corporation
359 TheraSnore By Distar
360 THORASYS Thoracic Medical Systems Inc.
361 Thought Technology
362 Transtracheal Systems
363 TRG Inc.
364 Tri-anim
365 TSI Incorporated
366 Ultra Pure Products
367 UltraScope Inc.
368 United Hayek Medical
369 VacuMed
370 Vapotherm Inc.
371 Verathon Medical
372 Vital Signs, a GE Healthcare Company
373 Vital Technologies Inc.
374 VitaLine Inc.
375 Vitalograph Inc.
376 Vortran Medical Technology 1 Inc.
377 W.A. Baum Co. Inc.
378 W.T. Farley Inc.
379 Walgreens Health Services
380 Western Medica
381 Westmed Inc.
382 Wolfe Tory Medical Inc.
383 Wright Solutions LLC
384 Zoe Medical Inc.
385 Zoll Medical Corporation

Dr. Bruce K. Rubin Wears Respiratory Care Like a Glove

The AARC is lucky to claim many friends among physician leadership. But few truly understand where the RT is coming from better than the 2012 recipient of the Association's highest honor — the Jimmy A. Young Medal.

by Debbie Bunch

Most physicians view respiratory problems in terms of their symptoms and treatments. This year's winner of the AARC's Jimmy A. Young Medal does, too. But with dual degrees in medicine and engineering, his mind's eye is a little more like the camera that zooms inside of intricate objects on the "CSI" television shows to reveal their innermost secrets. In his case, it's through the nasal cavity, past the pharynx, into the trachea, and then down into the lungs, where he can get up close and personal with the slippery, slimy substance he enjoys tinkering with the most: the overabundance of mucus generated by respiratory conditions ranging from cystic fibrosis (CF) to plastic bronchitis.

"I have an engineering approach to our research," explains Bruce K. Rubin, MD, MEngr, MBA, FRCPC, FAARC. "This involves applying engineering principles like taking complex problems and breaking them down into manageable bits and then reassembling everything and expecting it to fit together." That unique perspective has not

JIMMY A. YOUNG: A RISING STAR LOST TOO SOON

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

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

only made him one of the most highly cited pediatric pulmonology researchers in the world, but also the perfect fit for the respiratory care profession.

"Much of what therapists do, be it aerosol therapy, mucus clearance, mechanical ventilation, and so on, involves various aspects of engineering," says the AARC member. "I am always delighted to collaborate with and speak to respiratory therapy groups, as they really 'get' what I do far more than most physician groups. In many ways, the AARC is my true academic home."

Ahead of his time

Dr. Rubin's journey to scientific prominence can be traced back to his childhood. A self-described "nerd who challenged teachers," his interests ranged all the way from the relatively tame pursuits of coin collecting, chess, and reading, to making explosives in the backyard. "Had I been born 25 years later, someone would have put me on ADHD medications," he jokes now.

By the time he was in high school in Miami, FL, his teachers knew they had a gifted student and sent him off to take math and science classes at the local community college. From there it was on to Tulane University in New Orleans for a bachelor's degree with majors in physics, mathematics, and computer science, followed by his master's degree in biomedical engineering.

His interest in medicine grew out of his experience working with physicians as a biomedical engineer, and he enrolled in the Tulane School of Medicine, graduating in 1979. His path to respiratory care was solidified when he was a Rhodes Scholar and research fellow in paediatric bioengineering at Oxford University in England. "I was working in the biomedical engineering unit of the department of paediatrics at Oxford University John Radcliffe Hospital at a time when mechanical ventilation was just being introduced for premature babies," he recalls. "I was developing algorithms for feedback loop control of mechanical ventilation based upon transcutaneous oxygen and CO_2 measurements."

The idea of a microprocessor-controlled neonatal ventilator was ahead of its time — indeed, much of Dr. Rubin's original work has only recently made its way into the mainstream — but the experience set the stage for what would be a career-long exploration into key respiratory parameters such as aerosol therapy, airway mucus secretion and clearance, and secretory hyperresponsiveness disorders, including middle lobe syndrome and plastic bronchitis.

Most important investigations

Dr. Rubin has hundreds of scientific publications to his credit, but when asked to point to his most significant investigations, he cites his work with mucus in cystic fibrosis, the causes of plastic bronchitis, immunomodulation, and the role of ciliated cells in the release of mucin — plus a study that resulted in what he calls his "Andy Warhol 15 minutes of fame."

The CF studies took place early in his career. "We were interested in why CF mucus was so thick," he explains. "We discovered that, in reality, the viscosity of CF sputum was lower than that of sputum from persons with asthma or chronic bronchitis." Using homemade devices to measure the properties of mucus and sputum and to show how well sputum is transported by cough, they found thin mucus is actually harder to cough up than thicker, but less sticky, mucus.

The stickiness was attributed in part to surfactant inactivation in the airway, which could be treated with a surfactant aerosol. But perhaps most intriguingly, they found that so-called "mucus" in CF patients is not really

mucus at all but a combination of breakdown products from inflammatory cells and debris called "pus." "In fact, there is almost no intact mucin in the CF airway," marvels Dr. Rubin. "I suspect the lack of this protective coating may foster the development of chronic infection."

His studies into plastic bronchitis, a serious condition in which the lungs fill up with hard, branching mucus casts, involved a model of repairing heart cells "talking to" airway cells grown in co-culture. "Because plastic bronchitis is associated with congenital heart disease, we thought this might give us insight into this deadly disease," he says, adding, "We came up with a completely unexpected discovery — that the failing heart induces a growth factor called transforming growth factor beta, and this causes an overgrowth of airway cells," says Dr. Rubin. "This overgrowth of cells, or squamous metaplasia, narrows the airway." The team now believes this is one of the major causes of an old disease called cardiac asthma.

Dr. Rubin's 5-STEP Approach to Clinical Research

This year's winner of the AARC's Jimmy A. Young Medal offers these five tips to respiratory therapists who would like to join him in the pursuit of research important to the respiratory care profession and the patients it serves.

STEP 1

Becoming a scientist is a process. First learn to ask lots of questions, and question dogma. Then learn and read enough to formulate alternative hypotheses and explanations.

STEP 2

Next develop a plan for testing these hypotheses and find out what work others have already done. The most attractive hypothesis is of little value if you can't test it in the lab (for example, anything needing a time machine is out of the question) and is of no value if it has already been well studied.

STEP 3

The next step is to get the help and resources you need (money, collaborators, money, equipment, ethics approval, more money) and do the research.

STEP 4

This is not enough; you must then analyze and understand and write up the results. Embrace the unexpected!

STEP 5

Finally you must get the paper published, a process that requires another set of talents. So don't be shy about asking for help.

"Rinse and repeat as often as necessary," says Dr. Rubin. "Warning: This can become quite addictive." ■

Dr. Rubin's research into immunomodulation was the first outside of Japan to use macrolide antibiotics such as azithromycin as immunomodulators for the treatment of CF, and the first to show how these antibiotics work at the molecular level. The team is now searching for other drugs that could potentially have the same benefit and are looking into the development of a newly discovered drug as a potential therapeutic for inflammatory airway diseases.

Most recently, he and his colleagues have been studying ciliated cells, finding they secrete an enzyme that increases ciliary beating, causing neighboring mucous cells to release mucin. "This paracrine 'conversation' between these cell types may explain how mucus secretion and ciliary beating and clearance are tightly coupled," he explains.

Dr. Rubin's 15 minutes of fame, however, came when he decided to zero in on a mainstay in medicine cabinets everywhere. Working with two young colleagues, he showed that the misuse of Vicks VapoRub by placing it under or in the noses of infants produces dangerous mucus hypersecretion and mucociliary dysfunction. "This has now been confirmed around the world, and I have been told that this information has prevented hospital admissions and unnecessary therapy in very sick infants," he says.

Love at first sight

Dr. Rubin's research career has taken him from Tulane and Oxford to Queen's University at Kingston and the University of Alberta in Canada, St. Louis University in Missouri, and Wake Forest University in North Carolina. His current post is the Jessie Ball duPont Distinguished Professor and Chair and professor of biomedical engineering at Virginia Commonwealth University (VCU) School of Medicine in Richmond and physician-in-chief at Children's Hospital of Richmond at VCU.

Considering his relentless pursuit of information about mucus and how to clear it from the lungs, it was only natural that he meet up with the respiratory care profession along the way. James B. Fink, PhD, RRT, FAARC, an adjunct professor at Georgia State University and independent consultant and chief clinical officer for Aerogen in San Mateo, CA, recalls his first encounter with Dr. Rubin at a meeting on Florida's Captiva Island in the late 1980s. "I was amazed to find a physician — no less a pediatric pulmonologist — who really understood medical aerosols in such depth, waxing lyrically on issues impacting effective use of devices," says the AARC member. "It was love at first sight."

Abracadabra!

Dr. Bruce Rubin is known among his colleagues for his groundbreaking research in aerosol therapy and airway clearance. His young patients at the Children's Hospital of Richmond would cite a completely different claim to fame.

To them, he's the doctor who entertains them with magic tricks designed to interject a little fun into what would otherwise be just another pesky visit from a health care provider. "I am known for doing a bit of magic for each patient I see," says Dr. Rubin — who has worked with the well-known physician, activist, clown, and VCU graduate Patch Adams — and has taught magic to physicians and therapists in 23 countries on six continents. "Figuring out new ways to alter perception fascinates me."

Those who have seen him speak at the AARC Congress have experienced a little of this sleight of hand first hand. "I think people remember my Egan Memorial Lecture mostly for the rope trick I performed to illustrate the difference between particle size and particle size distribution in aerosols," he jokes. "Magic is an outlet for creativity and enhancing communication with patients — and with audiences." ■

The two would go on to collaborate on a number of publications on topics ranging from aerosols to secretion management, and Dr. Fink remembers being invited by Dr. Rubin to join the annual convocation of the "Phlegmish Masters" at an American Thoracic Society conference one year. "As a scientist, Bruce has furthered our understanding of multiple key aspects of respiratory care," says Dr. Fink. "His work in better understanding mucus has led many to refer to him as 'Mucus Welby, MD.'" For years his license plate said 'MUCUS,' as well, and he dubbed his car the "mucus transport."

Fellow Georgia State professor, Arzu Ari, PhD, RRT, FAARC, who has also conducted studies on aerosol therapy, first met Dr. Rubin in 2008 and confirms his significant contributions to the understanding of aerosol drug delivery and mucus clearance. "I describe him as the 'undisputed king of aerosol and mucus research,'" says the AARC member. She has also found him to be a great friend — someone who has always been there to help her with her own career decisions. "Bruce is a renaissance man with a multi-dimensional personality and talents that enlighten the lives of people around him, but most importantly he is one of the best friends I have ever had," says Dr. Ari. "His kind personality, good listening skills, and rational suggestions always directed me toward the right path."

Serving as a mentor to RC researchers is something Dr. Rubin has valued throughout his career, and still does today. "I have involved respiratory therapists in most of the work I do; and in a broader sense, I have been involved in respiratory therapy research mentorship both nationally and internationally," says the physician, noting there's an RT working on a PhD in his laboratory right now. "I hope that many more respiratory therapists get bit by the research bug."

Dream come true

Respiratory care researchers aren't the only RTs who have gained ground due to their association with Dr. Rubin. Bill Lamb, BS, RRT, FAARC, who is now the national clinical manager for the Ohio Medical Corporation, had his initial encounter with the physician back in 1991 when, as respiratory therapy department director, he interviewed him for a faculty position at St. Louis University and Cardinal Glennon Children's Hospital. Impressed by his education, experience, and accomplishments, he had no trouble recommending him for the job. But he never expected he'd get such a strong supporter of the respiratory care profession in the bargain.

"I had formed a respiratory care committee, and with my medical director's permission, invited Bruce to attend," recalls Lamb. The committee included division chiefs from neonatology, pediatric intensive care, and allergy and immunology, along with the hospital's chief residents and CF specialists. In the process of debating an initiative, Lamb had brought forward the idea to start a respiratory care consult service to assess and modify care plans. "Bruce interrupted and stated that all the respiratory care should be directed and driven by RTs, as 'these respiratory therapists know more about respiratory care than any of them would ever know.'" Lamb says he thought he was dreaming.

With Dr. Rubin's support and expertise, the consult service not only came to fruition but was just the beginning of an expansion of services for respiratory care. Dr. Rubin soon became the department's new medical director, and Lamb credits him with helping them start everything from a pediatric asthma center, to clinics for pulmonary disorders and technology-dependent patients, to a pediatric pulmonary function lab. They also revived an infant PFT lab Lamb had initially set up before Dr. Rubin arrived.



Dr. Rubin used this rope trick to illustrate the difference between particle size and particle size distribution in aerosols during the 2009 Donald F. Egan Lecture.

"Sign this"

Given Dr. Rubin's support for his respiratory therapists, Lamb knew he would be a great addition to the AARC; and during one of his regular Monday morning meetings with the physician, he decided to make it happen. "I placed an AARC membership application that I had already completed for him in front of him and said, sign this, I'm signing you up to be an AARC member," recalls Lamb. "He asked why and I told him about the AARC and how he should get involved, as he is an honorary respiratory therapist if there ever was one."

Dr. Rubin remembers his initial experiences with the AARC well. "I got Bill involved in our research and, in turn, he insisted that I attend the AARC meeting that year. I had an amazing time, with rooms full of RTs who really understood and were interested in aerosols and mucus."

That was in 1992, and he's attended nearly every meeting since. His relationship with the AARC, however, goes well beyond the annual meeting; and in every case he believes he's gotten as much as he's given. "As a medical advisor to the Missouri and Virginia state societies and a member of The North Carolina State Respiratory Care Board, I have learned the legislative process. As a member of the AARC Board of Medical Advisors, I have gained understanding as to how medical societies can work to support important respiratory care initiatives. As a trustee of the American Respiratory Care Foundation, I have had the privilege of working with some of the smartest people that I have met; and I have enjoyed seeing this philanthropic foundation focus to a greater extent on leadership and career development for people entering the field."

A long-time member of the Respiratory Care Editorial Board, where he currently serves as an associate editor, he has also had a positive influence on the Journal. "Dr. Rubin has been a strong contributor to the Journal," says Editor in Chief Dean Hess, PhD, RRT, FAARC. "As editor, I highly value his advice."

But ask Dr. Rubin what his favorite AARC activity has been, and he'll point squarely to his service on the International Committee. "I am energized by the enthusiasm of our respiratory colleagues from around the world, and I have been privileged to visit many of these colleagues as an invited speaker to their home countries. It is exciting to see respiratory care becoming an essential and highly respected part of the health care team around the world and to see the amazingly dedicated and visionary young leaders develop in many of these countries."

"Gobsmacked"

Earlier in this article Bill Lamb called Dr. Rubin an "honorary RT," and between his groundbreaking research into the bread-and-butter topics in respiratory care and his years of dedicated service to the AARC, he certainly deserves the title. As such, the news that he had won the Association's highest honor shouldn't have come as much of a surprise. But it did. "I describe the feeling as being 'gobsmacked.' I was incredibly surprised and elated," says the physician. "It reminded me of two other moments in my life — when I learned I had won a Rhodes scholarship to Oxford and when my wife accepted my proposal of marriage."

On both of those occasions he held off on the celebrations, fearing the people involved would somehow take back their good news. In this case, a flood of calls and emails from friends and colleagues reassured him that the Jimmy A. Young Medal was a real and lasting honor. "I felt much more comfortable going out and celebrating immediately," says Dr. Rubin.

When he takes the stage in New Orleans to accept the Jimmy A. Young Medal, he can do so knowing thousands of people in his "honorary profession" of respiratory care will be celebrating right along with him. ■

BRUCE K. RUBIN, MD, MEngr, MBA, FRCPC, FAARC

EDUCATION: BSc, MEngr, MD, Tulane University; Rhodes Scholar, Oxford University; MBA, Wake Forest University

ACADEMIC APPOINTMENTS: Tulane University Departments of Physics, Physiology, and Bioengineering, 1975–1981; Queen's University at Kingston, Ontario Department of Paediatrics, 1983–1987; University of Alberta Department of Pediatrics, 1989–1991; St. Louis University School of Medicine, 1991–1997; Wake Forest University School of Medicine, 1997–2009; Virginia Commonwealth University, 2009–present

EDITORIAL BOARDS: Respiratory Care, CHEST, *Clinical Pulmonary Medicine, Canadian Respiratory Journal, Journal of Respiratory Disease for Pediatricians, Journal of Aerosol Medicine, Paediatric Respiratory Reviews, Current Respiratory Medicine Reviews, Pediatric Respiratory Reviews, Current Respiratory Medicine Reviews, Journal of Chronic Obstructive Pulmonary Disease, Pediatric Pulmonology, American Journal of Respiratory and Critical Care Medicine, International Journal of Respiratory Care and Applied Technology, Expert Review of Respiratory Medicine, Journal of Paediatric Respiratory Disease*

MAJOR AWARDS: American College of Chest Physicians (ACCP) Du Pont Young Investigator Award, 1989; ACCP Alfred Soffer Research Award, 1990, and Editor's Award 2004; ACCP Du Pont Critical Care Research Award, 1990; Sepracor Achievement Award for Excellence in Pulmonary Disease State Management, 2007; International Congress of Pediatric Pulmonology Prix Extraordinaire, 2008; Forrest M. Bird Lifetime Scientific Achievement Award, 2008; Jimmy A. Young Medal, 2012 ■

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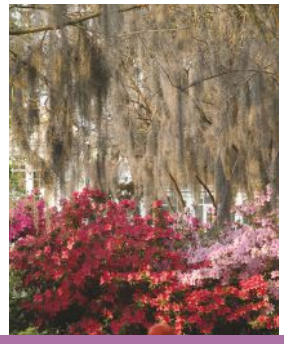
58th International Respiratory Convention & Exhibition






FIVE SESSIONS YOU WON'T

Images provided by New Orleans Convention & Visitors Bureau

1 Extracorporeal Membrane Oxygenation on the Cutting Edge

WHO: Ira M. Cheifetz, MD, FAARC

WHAT: Division Chief, Pediatric Critical Care Medicine

WHERE: Duke Children's Hospital, Durham, NC

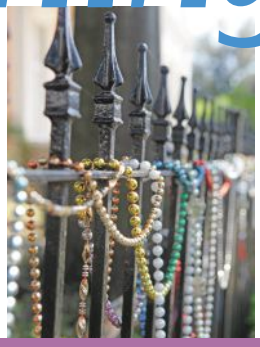
The field of extracorporeal life support, including extracorporeal membrane oxygenation (ECMO), has increased more dramatically over the past several years than any other aspect of respiratory care. ECMO is a life-saving therapy for patients with refractory cardiac and/or respiratory failure. This approach allows for near complete heart and/or lung support without the need for potentially toxic levels of ventilatory and inotropic support. ECMO allows time for underlying disease processes to resolve, decision-making to occur, stabilization prior to surgery, and/or bridging to organ transplantation.

Technologic advances in this field have included the widespread use of centrifugal pumps and a newer generation of membrane oxygenators with improved safety and performance profiles. Other technologic advances have included miniaturization of ECMO systems, allowing for intra- and inter-hospital transports, as well as ambulation in a select group of patients. Improved monitoring capabilities and focused educational initiatives have improved the overall safety of ECMO management.

ECMO is rapidly expanding from its foundation in neonatal and pediatric critical care to adult patients, especially those with refractory acute respiratory distress syndrome (ARDS). Rapid growth in the use of ECMO is also occurring as an extension of cardiopulmonary

(continued on page 48)

Coming Attractions

WANT TO MISS THIS NOV. 10–13

AARC Congress 2012 will cover the hottest topics in respiratory care today, and we have a comprehensive list of world-renowned speakers to address them. This month we provide previews of five sessions you'll definitely want to attend, written by the speakers and/or symposium moderators who will be presenting on these topics in New Orleans.

2 What Tidal Volume Should Be Used?

WHO: Richard Kallet, MS, RRT, FAARC

WHAT: Director of Quality Assurance, Respiratory Care

WHERE: University of California – San Francisco, San Francisco General Hospital, CA

The question of what constitutes an appropriate tidal volume (VT) setting during mechanical ventilation has been debated for almost half a century. In the 1960s, when both ICUs and mechanical ventilation became commonplace, it was apparent that physiologic VTs were inadequate to meet the needs of many critically ill patients. But after 40 years of managing these patients with large VTs, investigators from the National Institutes of Health's ARDS Network and other researchers convincingly established that this practice was highly detrimental.

A decade after widespread acceptance of lung protective ventilation (LPV) might be a propitious time to reevaluate how VT should be set, not only in patients with

(continued on page 48)

Extracorporeal Membrane Oxygenation on the Cutting Edge
(continued)

resuscitation (ECPR). ECPR is the application of ECMO as a lifesaving measure in a patient who is failing standard resuscitation. Similarly, ECMO can offer effective cardiac support in urgent/emergent situations as a bridge to a ventricular assist device and, potentially, to heart transplantation.

With increasing data, expanding clinical applications, and continually improving technology, the field of extracorporeal life support is likely to continue to rapidly advance over the coming years. It must be stressed that a key component to the success of an ECMO program remains true multidisciplinary involvement and continued comprehensive continuing education. ■

What Tidal Volume Should Be Used?
(continued)

ARDS, but also for those with and without risk factors for lung injury. Probably the most important challenge to maintaining LPV has been the discovery that liberal sedation practices and prolonged use of paralytics (often needed to promote patient-ventilator synchrony) may be just as detrimental to patients as liberal VTs. Also, the ever-evolving complexity of ventilator modalities presents both challenges to maintaining LPV as well as potential opportunities for improving our practice.

As a former ARDS Net clinical coordinator, a clinical researcher who has focused on patient-ventilator synchrony, and the clinician primarily responsible for maintaining LPV integrity in an academic clinical environment, I believe it is important for clinicians who will be attending this session to be able to prioritize when, and in whom, LPV should be vigorously implemented. I also want attendees to come away with the ability to determine which patients could benefit from a liberalized ("harm-reduction") strategy. After 16 years of negotiating different degrees of LPV in complex presentations of ARDS, I've developed practical guidelines that might assist RTs in their daily work environment. It is my hope that some of these guidelines will help clinicians be more effective agents for promoting LPV. ■

Laissez Les Bons Temps Rouler:

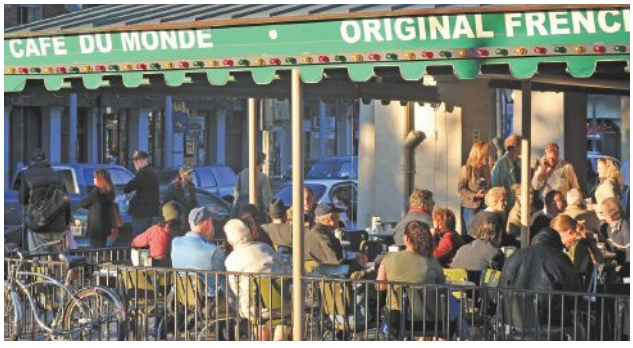
It's More Than a Meeting, *It's an Event!*

Over the past several issues we've been sharing "Big Easy Favorites" from members of the Louisiana Society for Respiratory Care, who were happy to have the opportunity to show just how far their city has come since Hurricane Katrina devastated the area back in 2005. We close out the feature this month with a look at what Terry Forrette, MHS, RRT, believes no visitor should miss.

DINING IN THE BIG EASY

CAMELLIA GRILL AND STREETCAR RIDE: Ride the streetcar from Canal St. down St. Charles Ave. and enjoy seeing some of the most beautiful old New Orleans-style homes. Depart the streetcar at S. Carrollton St. and have lunch at Camellia Grill. 626 S. Carrollton St. (uptown).

CENTRAL GROCERY: Italian deli with the best muffuletta sandwich in town. 923 Decatur St.



CAFÉ DU MONDE: Get your beignets (French donuts) and café au lait here, then go up to the Moonwalk on the river-front and enjoy them while watching the ships go by. 800 Decatur St.

Terry Forrette's Favorites

FAVORITE THINGS TO DO

STEAMBOAT NATCHEZ RIVERBOAT CRUISE: The last authentic steamboat on the Mississippi River. Daily harbor jazz cruises and nightly dinner jazz cruises.

ST. LOUIS NO. 1 CEMETERY TOUR: Founded in 1789, this cemetery is on the National Register of Historic Places and is just steps outside the French Quarter. It is the burial ground of many local and national figures. See the magnificent tombs of the French, Italian, Portuguese, and Spanish societies.

MUSIC ON FRENCHMAN STREET: New Orleans' live music scene located in the Faubourg Marigny between Esplanade Ave. and Royal St.

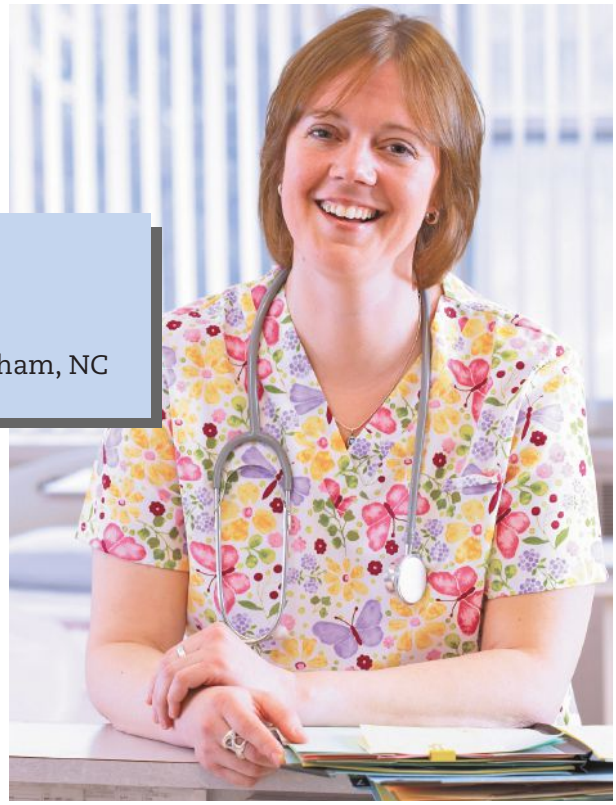
FERRY RIDE ACROSS THE MISSISSIPPI: Ride across the Mississippi River on the ferry from the French Quarter to Algiers Point. ■

3 Research and the Respiratory Therapist

WHO: John Davies, MA, RRT, FAARC

WHAT: Clinical Research Coordinator

WHERE: Duke University Medical Center, Durham, NC



Respiratory therapy represents a growing profession of opportunity. The respiratory therapist is part of the multidisciplinary team and, as such, is very involved in patient assessment and care, drug delivery, protocol application, and the use of technology to enhance care. These are carried out in many different environments, including acute care, subacute care, outpatient care, long-term care, and home care.

RTs also provide services to a multitude of patients during a regular shift and figure prominently in their care, making them excellent identifiers of best practices, developers of practice guidelines, and implementers of evidence-based treatment. Respiratory therapists are on the frontlines when it comes to assessing the usefulness of new technology, the effectiveness of present and proposed treatment modalities, and the maintenance of optimal service quality.

During these daily activities, RTs regularly come up with research-related questions, but most are unsure what to do with them. That is where our "Research and the Respiratory Therapist" symposium comes in. Performing research may appear to be a daunting task to many clinicians who lack experience in research-related endeavors; but with the right information and help, any RT can become an RC researcher.

Robert Chatburn, MHHS, RRT-NPS, FAARC, and I will attempt to clarify the different aspects of research projects by providing insight into:

1. How to come up with a good question or topic to research.
2. How to effectively structure a study.
3. The function of the Institutional Review Board.
4. The steps that take a study from the beginning through publication.

Along the way we'll also provide "clinical pearls" from experienced researchers to help guide novice RC researchers through the various processes associated with research-related activities. This session will be beneficial to all RTs — from the newly hired, fresh-out-of-school therapist to the "seasoned" veteran. I hope to see you all there. ■

Log on to www.neworleanscvb.com/aarc/ for Congress information on everything from registration, to things to do, to getting around, to brochures and coupons… and the list goes on…

4 Management Boot Camp 2012

WHO: Garry Kauffman, MPA, RRT, FAARC

WHAT: Director, Respiratory Care Services

WHERE: Wake Forest University Baptist Medical Center, Winston-Salem, NC

As it has every year for the past decade, the AARC Congress will feature special programming to boost the leadership skills of attendees. Renamed the "Management Boot Camp" last year, this feature of the meeting is designed to address concerns held across the spectrum of professionals — from those new to leadership, to those considering such a career path, to seasoned leaders. Similar to last year's session, the number of submissions far exceeded the time allotted, so we created two parts with a total of eight presentations over two days.

Part I will address marketing your services, coaching to achieve greater performance, and dealing with "challenging" staff. It will also include a top 10 list of ideas to document your value. I'll start things off by addressing what we must do to transition from a history of "counting what we do" to "documenting and communicating the value" of our services. I'll provide a checklist to identify essential stakeholders, craft the message to match the needs of each stakeholder, and review the methodologies to ensure that our value is understood and appreciated by each stakeholder.

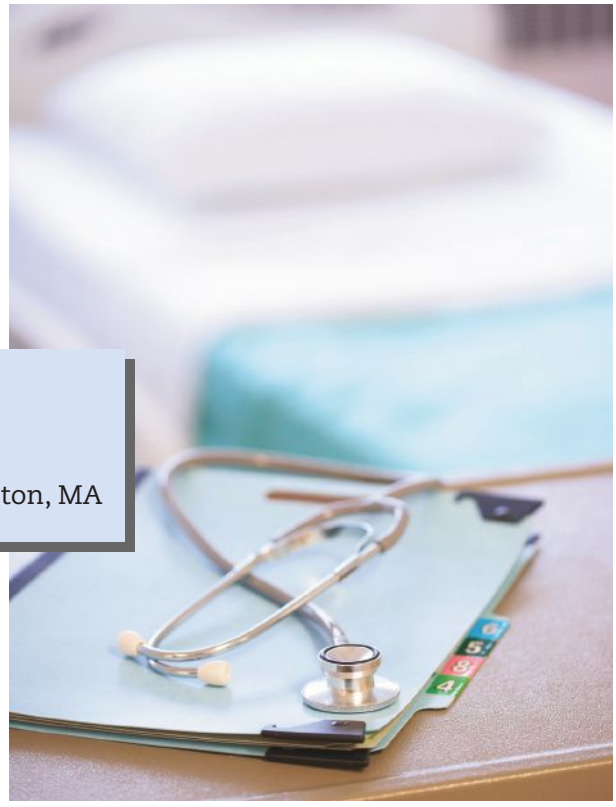
From there, Scott Reistad, RRT, CPFT, FAARC, will discuss essential skills to effectively coach staff to achieve the performance levels that address the diversity and unique characteristics of a modern RC department. Mark Babic, RRT, will teach us how to make a difference in how our departments function, how people collaborate, and how we can improve workplace performance. Suzan Herzig, RRT, will round things out by describing 10 discrete ways that every respiratory therapist can demonstrate, document, and communicate his/her value.

Part II will focus on developing relationships with physicians from the RC director's and the medical director's perspective, along with talks on understanding and utilizing productivity and benchmarking and growing your leadership skills. Janice Thalman, MHS, RRT, FAARC, and Neil MacIntyre, MD, FAARC, will provide back-to-back presentations on how to develop mutually beneficial relationships between RC leadership, RC staff, and medical directors. Each will utilize his/her own experiences in working together to communicate how their relationship has created highly effective respiratory care services at Duke University Medical Center and how this relationship has increased the visibility and value of the RC department and respiratory therapists.

Bill Dubbs, MEd, RRT, FAARC, will be up next, with a session that addresses the two front-burner issues that continue to both frustrate and support RC leaders: establishing productivity systems and utilizing benchmarking to learn from others. Scott Reistad returns to anchor this year's symposia by explaining how we can fine-tune our leadership skills. ■

5 28th New Horizons in Respiratory Care Symposium: The Scientific Basis for Respiratory Care

WHO: Dean Hess, PhD, RRT, FAARC
WHAT: Assistant Director of Respiratory Care
WHERE: Massachusetts General Hospital, Boston, MA



On May 2–4, 1974, the National Heart and Lung Institute and the American Thoracic Society sponsored a Conference on the Scientific Basis of Respiratory Therapy. The conference was held at the Sugarloaf Center in Philadelphia and became known as the Sugarloaf conference. The proceedings were published later that year in the *American Review of Respiratory Disease*.

The conference addressed the topics of oxygen therapy, aerosol therapy, physical therapy, and intermittent positive pressure breathing (IPPB). Shocking to all respiratory therapists at the time were statements such as, "no convincing rationale for the use of IPPB in patients with COPD has been demonstrated" and "there is little data in the literature on which to base any conclusions as to whether IPPB is effective… in assisting the patient to take a deep breath." Even more stinging was the suggestion that the use of IPPB might be motivated as much by the revenue generated as by a desire to provide good patient care.

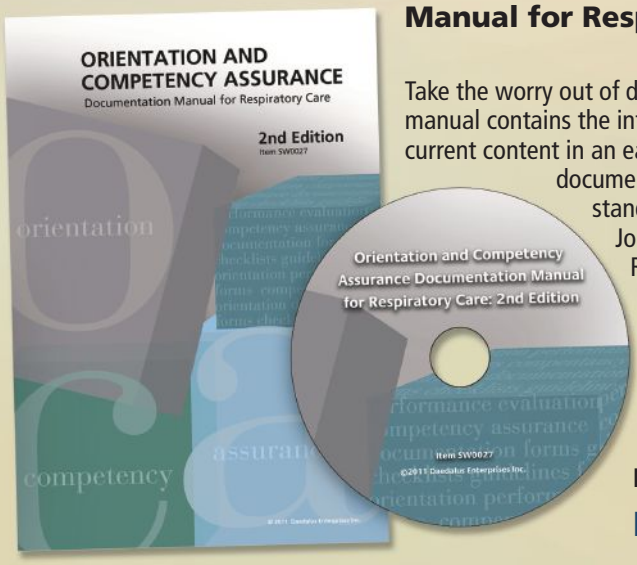
For today's generation of respiratory therapists, some of whom have never given an IPPB treatment, it may be hard to understand that respiratory care in the mid-1970s consisted mostly of giving these treatments. But that was the case back then, and many of us practicing at the time were understandably smarting over the Sugarloaf recommendations. To condemn IPPB was also to damn the profession. In the end, however, Sugarloaf did not sink the profession, but rather it made us stronger by serving as a wake-up call — a siren alerting us to the need for a scientific basis for the profession. This would later take the moniker "evidence-based medicine." In retrospect, Sugarloaf caused the profession to embrace evidence-based practice much sooner than we might have otherwise.

Against this background, we present the 2012 New Horizons Symposium on "The Scientific Basis for Respiratory Care." We will address some of the same topics as those addressed by the 1974 Sugarloaf conference, although some topics that were presented in 1974 are of course no longer relevant — IPPB, for example.

I will kick things off with "Science and Evidence: Separating Fact from Fiction." From there, Teresa Volsko, MHHS, RRT, FAARC, will tackle "The Scientific Basis for Airway Clearance Techniques"; Timothy Myers, MBA, RRT-NPS, will talk about "The Science Guiding Selection of an Aerosol Delivery Device"; Richard Branson, MSc, RRT, FAARC, will delve into "The Scientific Basis for Post-Operative Respiratory Care"; Chris Blakeman, MSc, RRT, will focus on "The Scientific Basis for Oxygen Therapy in the Hospitalized Patient"; and James K. Stoller, MD, MSc, FAARC, will cover "The Scientific Basis for Protocol-Directed Respiratory Care."

Proceedings from the symposium will be published next year in Respiratory Care. ■

Respiratory Management Made Easier



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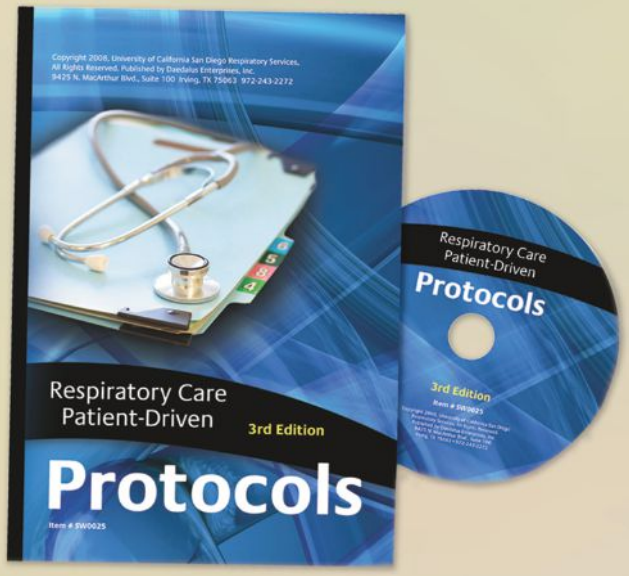


Additional educational and management resources are available from the AARC. Select from videos, books on CD, handouts for patient education and career, and much more. The AARC Respiratory Catalog allows you to search by keyword, so it is easy to find all items related to your topic of choice. Your purchases also provide support directly back into the AARC for educational programs, public relations for growth and awareness of the profession, advocacy at the state and national level, and much more.

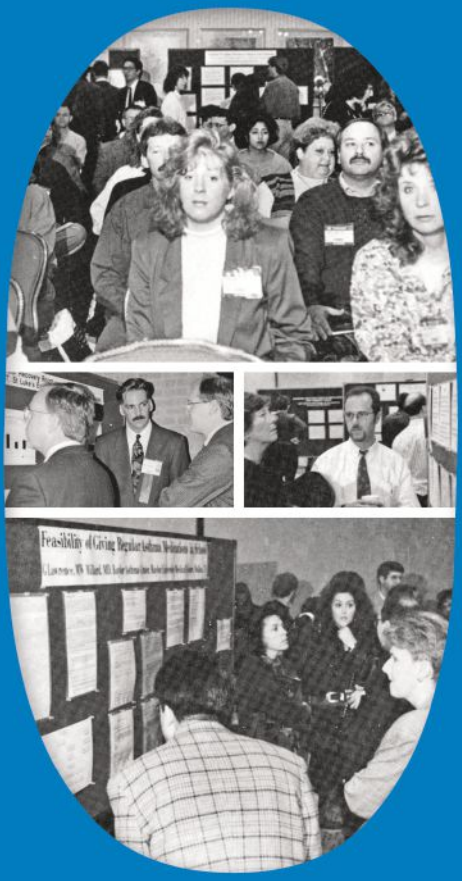
The Open Forum Turns 40

Big room, small start

"In the early 1970s, respiratory therapists were hardly looking at the scientific basis of what they were doing at work, much less doing actual research on the different modalities and consequences," says Ray Masferrer, RRT, FAARC, the managing editor of Respiratory Care who is widely credited with getting the Open Forum up and running. "You could count on the fingers of one hand those who were doing research, and their work would be presented at medical conferences such as the American Thoracic Society (ATS) annual meeting."

It was his own attendance at the ATS meeting, in fact, that gave Masferrer the idea for a special session at the AARC meeting devoted to the presentation of original research. "At the 1972 ATS meeting in Montreal, the late Dr. Roger Bone, at the time a pulmonary fellow at the University of Texas Southwestern Medical School and Parkland Hospital in Dallas, presented three abstracts on compliance curves on ventilator papers," recalls the long-time AARC member.

As director of respiratory care at Parkland at the time, Masferrer was involved in those studies and



Thousands of people from all over the world flock to the AARC International Respiratory Convention & Exhibition every year. One of the main reasons they come is to attend the poster presentations of original research featured in the annual Open Forum.

Last year, the Open Forum featured a record-breaking 20 sessions spread over the four days of the meeting, and this year's event at AARC Congress 2012 in New Orleans is on track to beat that record. As the Open Forum celebrates its 40th anniversary this year, we thought it would be a great time to take a look back at how it all began.

decided to contact the Program Committee for the AARC meeting to see if they would be interested in having some of the results presented at the upcoming session in Las Vegas as well. "The Program Committee not only welcomed Parkland's proposal, but it also encouraged other AARC members to submit proposals to present the findings of their research," he says.

Of course, given the dearth of research activities in the profession at the time, only one other proposal — "Mucociliary Transport in the Isolated Trachea" by Ric Radford, BS, RRT, and his colleagues at St. Joseph's Hospital in Tacoma, WA — was accepted for presentation. The fact that the session was assigned to the rotunda at the Las Vegas Convention Center — a room that could hold more than 5,000 people — and only about 20 people actually showed up was a little disconcerting as well.

But Masferrer says it was a start, and that was all the AARC needed to keep the momentum going. Following the Las Vegas meeting, he proposed that the Program Committee make the presentation of original research an annual event at the meeting and suggested calling it the "Open Forum" to reflect the fact that research from all areas of respiratory care would be welcome. Seven papers were accepted for presentation at the 1973 meeting in Atlanta, GA, and the Open Forum slowly but surely grew from there into the large-scale event you see every year at the AARC Congress today.

Dr. Dean Hess

Richard Branson

Robert Chatburn

Kathy Jones Boggs Rye

Proving ground for new researchers

"The Open Forum has grown so much in the last few years and, in my opinion, is the premier event among all the other unique educational events presented every year at the AARC Congress" says Masferrer. "Now more than 300 papers are presented over the four days of the meeting." Those presenting their studies today range from seasoned researchers to novice investigators who may be sharing the results of their first study. If history proves correct, many of those new researchers will go on to conduct many more studies throughout their careers. People like Dr. Dean Hess, Richard Branson, Robert Chatburn, and Kathy Jones Boggs Rye — all big-time researchers today — presented at the Open Forum in the early stages of their careers.

The Open Forum further encourages the development of research careers by making a couple of great perks available to those submitting abstracts. All of the papers accepted for presentation at the Open Forum, for example, are automatically placed in competition for American Respiratory Care Foundation research-related grants and awards, and any author of an abstract who submits a full paper to Respiratory Care is compensated for registration at the AARC meeting.

Masferrer believes the Open Forum sets the AARC Congress apart from the crowd. "Besides being a place where RTs and others can present their work, the Open Forum makes the Congress unique among respiratory care meetings," he says. "It is the only respiratory care meeting featuring the presentation of original research."

It is also making RTs everywhere more aware of the important role research plays in creating a strong scientific basis for their profession. "Treatments and modalities mean nothing until proven effective," emphasizes Masferrer. "It is up to RTs to continue to analyze those treatments and modalities; and if that happens, then the Open Forum will continue to grow." ■

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Program Committee Announces 2012 Sputum Bowl Plans

Whether you attended AARC Congress 2011 or not, you've probably heard the rumors floating around regarding the future of the AARC Sputum Bowl, and you probably have some unanswered questions. We want to provide you with some clarification and thought the best way to communicate this information would be through a simple Q&A format. Hopefully we'll address most, if not all, of your questions in this interview of AARC Program Committee Chair Cheryl A. Hoerr, MBA, RRT, FAARC.

AARC Times: Rumors circulated that 2011 would be the last year for the Sputum Bowl competition. Will there be a Sputum Bowl in 2012?

Cheryl A. Hoerr: Yes. During the 2011 Sputum Bowl Finals in Tampa, FL, AARC President Karen J. Stewart, MSc, RRT, FAARC, announced there would be a Sputum Bowl competition in 2012.

AARC Times: President Stewart announced there would be some changes to the 2012 Sputum Bowl — that it would be back "bigger and better than ever." What exactly does that mean?

Hoerr: The AARC wants to make the Sputum Bowl into a more contemporary competition — one that still challenges the knowledge of our competitors but also engages the audience. Members tell us that they like to test their own knowledge but are unable to do so in the current format. The 2012 Sputum Bowl Committee has been charged with modifying the competition to allow for more audience participation. Some of the changes are summarized below:

Cheryl A. Hoerr, MBA, RRT, FAARC, is chair of the AARC Program Committee.

1 **Scoreboard** — We'll be doing away with our old, outdated, analog scoreboard. It will be replaced with a virtual scoreboard with a sleek new look and design.

2 **Preliminary Rounds** — In the preliminary rounds we will be adding two new features this year: "Risk-Reward" and "Ask an Expert."

Risk-Reward: The "Risk-Reward" feature will add two new twists. If a team buzzes in and provides the correct answer before the moderator finishes reading the question, the point will be awarded as usual. However, if the team buzzes in early and answers incorrectly, they will *lose a point* and give the other team the opportunity to listen to the question read in its entirety. The other team will then have the usual time to answer. This feature was designed in response to our audience members desiring to hear more of the questions in their entirety.

Ask an Expert: During each match throughout the *preliminary rounds*, each team will be given *one* opportunity to "Ask an Expert" during the round. The option to use or not use this feature is completely up to the team members. Play begins and continues following normal Sputum Bowl rules. At any point in the match, if a team "buzzes" in to answer a question and they realize they do not know the answer or are unsure of the answer, they may opt to "Ask an Expert." The request to use this option must be made within the normal 10 seconds of time given to begin answering the question. The request can be made by ANY team member and cannot be withdrawn once the request is made and recognized by the moderator. Upon electing to "Ask an Expert," the moderator will stop the clock and the team will call upon their designated expert for assistance. The expert should sit in the front row so he or she can quickly join their team. The moderator will then repeat the question for the expert, who then has 10 seconds to answer. Upon giving their answer, the clock is restarted and the team has 10 seconds to either accept the expert's answer or to provide one of their own. If the team correctly answers the question, a point is awarded. If the team incorrectly answers the question, the opposing team is given 10 seconds to correctly answer the question. However, the question will NOT be re-read for the opposing team as it will have already been re-read. Any "penalty" that may be in effect when the "Ask an Expert" option is utilized remains in effect.

3 **Finals Night** — This year's Finals Night will see two new features added to enliven the competition and engage the audience in ways that we've not done historically: "Call Your Posse" and "The Tables Are Turned: The Audience Become the Players."

Call the Posse: Ten minutes before the start of each contest, each team will identify up to eight individuals to serve as their posse. The posse will sit at a table near the front of the stage and be available to their respective team during the match. Any time during the match if a team buzzes in and is unsure of an answer, they may "Call the Posse." The posse will then have 10 seconds to come up with an answer independent of the collaboration of the requesting team. The posse's answer is final. Each team may "Call The Posse" only once during the match.

The Tables Are Turned: The Audience Become the Players: In response to numerous requests to increase the audience's engagement during Finals Night, we will be utilizing an audience response system as part of a new halftime event. Select VIP attendees will be admitted to a reserved area near the front of the competition. These VIPs will compete in a respiratory trivia-like contest consisting of 25 multiple choice questions using the TurningPoint Technologies audience response system. Each contestant will be scored in terms of correctness of their answer and the speed in which they answer. Most questions will be clinical in nature while some will be just plain fun. Prizes will be awarded to the top finishers at the conclusion of the questions. How do you become a "VIP" you might ask? You'll have to monitor your AARC communications and www.AARC.org as we get closer to AARC Congress 2012 for more information.

We hope you join us for our new and improved Sputum Bowl this year at AARC Congress 2012

AARC Times: Will these new changes still allow for student and practitioner teams to compete?
Hoerr: Absolutely! Nothing has changed in this regard.

AARC Times: How will these rule changes impact state Sputum Bowl competitions?
Hoerr: They won't impact state competitions at all. Each state runs their own competition a bit differently… some with their own set of rules. Any rule changes on the national level will have no impact on the state societies. Whether your state chooses to adopt any new rule changes is completely up to your state leadership.

AARC Times: Should we expect more Sputum Bowl changes in the future?

Hoerr: We've asked the Sputum Bowl committee to routinely evaluate needed changes to the competition. So, yes, it is likely the National Sputum Bowl Competition will continue to evolve in coming years. Any changes would be designed to enhance the competition but also to increase the engagement, entertainment value, and participation with the audience.

AARC Times: How can AARC members keep up with Sputum Bowl activities?
Hoerr: We've created a community on AARConnect where you can meet up with others interested in Sputum Bowl. We invite you to ask questions, share favorite memories, get information about plans as they are developed, and help share in the development of ideas. Click the "**Join Community**" button on the AARC Sputum Bowl community and you're in!

We hope that this information has been helpful. As new information becomes available, the AARC will communicate it to you through our website, email lists, or by publication in *AARC Times*. Should you have further questions that are not answered here, I would recommend that you contact the Sputum Bowl coordinator in your state.

Thank you so much for your support of this competition — one that is rich with tradition for the AARC and respiratory therapists everywhere! We hope you join us for our new and improved Sputum Bowl (supported by Covidien) this year at AARC Congress 2012 in New Orleans, LA. ■

For the 92% of neonatologists who expressed concerns over exposing newborn infants to animal-derived medications[1]...

Discovery Labs heard you

Dear Healthcare Provider,

Above most, you understand the potential challenges that lie ahead for an infant that is born prematurely. Your goal is to ensure each infant has the quality of life her parents long for and which she deserves. You also know that not all medications are created equal. That is why, according to a recent publication in the *Journal of Neonatal-Perinatal Medicine;* nearly all neonatologists interviewed stated they were concerned about the exposure of newborn infants to animal-derived medications.[1]

In March, the US FDA approved the first and only synthetic peptide-containing surfactant, SURFAXIN® (lucinactant). Approved for the prevention of respiratory distress syndrome (RDS) in premature infants at high risk for RDS, SURFAXIN is the first new alternative to animal-derived surfactants to be approved by the FDA in more than two decades. Importantly, the safety and efficacy of SURFAXIN was evaluated in two phase 3 clinical trials[2,3], which included direct comparisons to the animal-derived surfactants, Survanta® and Curosurf®. SURFAXIN will become available as a commercial product later this year.

The approval of SURFAXIN represents more than just a therapeutic alternative for neonatologists and NICU parents. It is the embodiment of the unwavering commitment Discovery Labs has to the respiratory critical care community today and tomorrow. We have persisted because of our belief in the series of new solutions that we are developing to improve patient lives and the standard of respiratory critical care.

As you contemplate the best treatment options for your neonatal patients, we would be happy to provide you with more information about SURFAXIN and explore ways to work together to alleviate the concerns of neonatologists and NICU parents who have waited for more than a decade for a new and effective alternative for the prevention of RDS in preterm infants.

Together, we can reach our goal of redefining RDS management and give preterm infants the life they deserve.

Sincerely,

Dr. Thomas F. Miller
Chief Operating Officer
Discovery Laboratories, Inc.
Warrington, PA

DiscoveryLabs.
Inspired Innovation.

IMPORTANT SAFETY INFORMATION

SURFAXIN (lucinactant intratracheal suspension) is intended for intratracheal use only. The administration of exogenous surfactants, including SURFAXIN, can rapidly affect oxygenation and lung compliance. SURFAXIN should be administered only by clinicians trained and experienced with intubation, ventilator management, and general care of premature infants in a highly supervised clinical setting. Infants receiving SURFAXIN should receive frequent clinical assessments so that oxygen and ventilatory support can be modified to respond to changes in respiratory status.

Most common adverse reactions associated with the use of SURFAXIN are endotracheal tube reflux, pallor, endotracheal tube obstruction, and need for dose interruption. During SURFAXIN administration, if bradycardia, oxygen desaturation, endotracheal tube reflux, or airway obstruction occurs, administration should be interrupted and the infant's clinical condition assessed and stabilized. SURFAXIN is not indicated for use in acute respiratory distress syndrome (ARDS).

Please see accompanying brief prescribing information or visit www.surfaxin.com for full prescribing information.

[1] S. Sarkar and S.M. Donn, Journal of Neonatal-- - Perinatal Medicine 4 (2011) 235–239
[2] F. R. Moya, et al; Pediatrics 2005;115;1018-- - 1029
[3] S. K. Sinha, et al; Pediatrics 2005;115;1030-- - 1038

MK-011

Visit AARC booth 908-910 in New Orleans

Surfaxin®
(lucinactant)
Intratracheal Suspension

BRIEF SUMMARY OF PRESCRIBING INFORMATION

Please see package insert for full prescribing information.

INDICATIONS AND USAGE

SURFAXIN is indicated for the prevention of respiratory distress syndrome (RDS) in premature infants at high risk for RDS.

CONTRAINDICATIONS

None.

WARNINGS AND PRECAUTIONS

Acute Changes in Lung Compliance

Administration of exogenous surfactants, including SURFAXIN, can rapidly affect lung compliance and oxygenation. SURFAXIN should be administered only by clinicians trained and experienced in the resuscitation, intubation, stabilization, and ventilatory management of premature infants in a clinical setting with the capacity to care for critically ill neonates. Infants receiving SURFAXIN should receive frequent clinical assessments so that oxygen and ventilatory support can be modified to respond to changes in respiratory status.

Administration-Related Adverse Reactions

Frequently occurring adverse reactions related to the administration of SURFAXIN include bradycardia, oxygen desaturation, reflux of drug into the endotracheal tube (ETT), and airway/ETT obstruction.

Increased Serious Adverse Reactions in Adults with Acute Respiratory Distress Syndrome (ARDS)

Adults with ARDS who received lucinactant via segmental bronchoscopic lavage had an increased incidence of death, multi-organ failure, sepsis, anoxic encephalopathy, renal failure, hypoxia, pneumothorax, hypotension, and pulmonary embolism. SURFAXIN is not indicated for use in ARDS.

Clinical Trials Experience

The efficacy and safety of SURFAXIN for the prevention of RDS in premature infants was demonstrated in a single randomized, double-blind, multicenter, active-controlled, multi-dose study involving 1294 premature infants (Study 1). Infants weighed between 600 g and 1250 g at birth and were 32 weeks or less in gestational age. Infants were randomized to receive 1 of 3 surfactants, SURFAXIN (N = 524), colfosceril palmitate (N = 506), or beractant (N = 258). Co-primary endpoints were the incidence of RDS (defined as having a chest x-ray consistent with RDS and an $FiO_2 \geq 0.30$) at 24 hours and RDS-related mortality at 14 days. The primary comparison of interest was between SURFAXIN and colfosceril palmitate with the intent of demonstrating superiority. Beractant served as an additional active comparator. Compared to colfosceril palmitate, SURFAXIN demonstrated a statistically significant improvement in both RDS at 24 hours and RDS-related mortality through Day 14. A second multicenter, double-blind, active-controlled study involving 252 premature infants was also conducted to support the safety of SURFAXIN (Study 2). Infants weighed between 600 g and 1250 g and were less than 29 weeks in gestational age. Infants were randomized to receive 1 of 2 surfactants, SURFAXIN (N = 124) or poractant alfa (N = 128).

The safety data described below reflect exposure to SURFAXIN administered intratracheally to infants at a dose of 5.8 mL per kg (up to 4 doses) in either 4 aliquots (Study 1) or 2 aliquots (Study 2) in 643 premature infants.

Comparator surfactants colfosceril palmitate and beractant were administered at the recommended doses (5.0 and 4.0 mL per kg, respectively) while the first dose of poractant alfa administered (2.2 mL per kg) was less than the recommended dose of 2.5 mL per kg. Any subsequent doses of poractant alfa were at the recommended 1.25 mL per kg dose.

Overall, the incidence of administration-related adverse reactions was higher in infants who received SURFAXIN compared to other surfactants (Table 1) and resulted in a greater proportion of infants treated with SURFAXIN who experienced administration-related oxygen desaturation and bradycardia. For Study 1, oxygen desaturation was reported in 17%, 9%, and 13% and bradycardia for 5%, 2%, and 3% of infants treated with SURFAXIN, colfosceril palmitate, and beractant, respectively. For Study 2, oxygen desaturation was reported in 8% and 2% and bradycardia in 3% and 2% of infants treated with SURFAXIN and poractant alfa, respectively. **These adverse reactions did not appear to be associated with an increased incidence of serious complications or mortality relative to the comparator surfactants (Table 2).**

Table 1. Administration-Related Adverse Reactions in SURFAXIN Controlled Clinical Studies[a]

	Study 1[b]			Study	
	SURFAXIN (N = 524)	Colfosceril palmitate (N = 506)	Beractant (N = 258)	SURFAXIN (N = 119)	Poractant alfa (N = 124)
Total Doses Administered	994	1038	444	174	160
	Total Number of Events (Events per 100 Doses)				
ETT Reflux	183 (18)	161 (16)	67 (15)	47 (27)	31 (19)
Pallor	88 (9)	46 (4)	38 (9)	18 (10)	7 (4)
Dose Interruption	87 (9)	46 (4)	30 (7)	7 (4)	2 (1)
ETT Obstruction	55 (6)	21 (2)	19 (4)	27 (16)	1 (1)

[a] Table includes only infants who received study treatment.

[b] **Study 1 doses were administered in 4 aliquots.**

[c] **Study 2 doses were administered in 2 aliquots.**

Table 2. Common Serious Complications Associated with Prematurity and RDS in SURFAXIN Controlled Clinical Studies Through 36-Weeks Post-Conceptual Age (PCA)

	Study 1			Study 2	
	SURFAXIN (N = 527) %	Colfosceril palmitate (N = 509) %	Beractant (N = 258) %	SURFAXIN (N = 119) %	Poractant alfa (N = 124) %
Apnea	52	52	46	66	75
Intraventricular hemorrhage, all grades	52	57	54	39	38
-Grade 3/4	19	18	21	13	8
Periventricular leukomalacia	10	10	12	4	9
Acquired sepsis	44	44	44	45	52
Patent ductus arteriosus	37	35	37	43	44
Retinopathy of prematurity, all grades	27	26	25	32	31
-Grade 3/4	6	7	6	5	9
Necrotizing enterocolitis, all grades	17	17	19	13	15
-Grade 2/3	6	8	14	8	8
Pulmonary air leak through Day 7, all types	15	17	14	9	7
-Pulmonary interstitial emphysema	9	10	10	3	5
-Pneumothorax	3	4	2	4	1
Pulmonary hemorrhage	10	12	14	6	9

All-cause mortality through 36-weeks PCA was similar regardless of which exogenous surfactant was administered.

Adverse reactions reported in the controlled clinical studies through 36-weeks PCA occurring in at least 10% of infants were anemia, jaundice, metabolic acidosis, oxygen desaturation, hyperglycemia, pneumonia, hyponatremia, hypotension, respiratory acidosis, and bradycardia. These reactions occurred at rates similar to the comparator surfactants.

No assessments for immunogenicity to SURFAXIN were performed in these clinical studies.

Follow-up Evaluations

Twelve-month corrected-age follow-up of 1546 infants enrolled in the 2 controlled clinical studies demonstrated no significant differences in mortality or gross neurologic findings between infants treated with SURFAXIN and those treated with the comparator surfactants (colfosceril palmitate, beractant, or poractant alfa).

OVERDOSAGE

There have been no reports of overdose following the administration of SURFAXIN.

HOW SUPPLIED/STORAGE AND HANDLING

SURFAXIN (lucinactant) Intratracheal Suspension is supplied sterile in single-use, rubber-stoppered, clear glass vials containing 8.5 mL of white suspension (NDC 68628-500-31). One vial per carton.

Store SURFAXIN in a refrigerator at 2° to 8°C (36° to 46°F) and protect from light until ready for use. Do not freeze. Vials are for single use only. Discard any unused portion of SURFAXIN. Discard warmed vials of SURFAXIN if not used within 2 hours of warming.

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Warrington, PA 18976
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AARC CONGRESS 2012

The 58th International Respiratory Convention & Exhibition

Advance Program

Ernest N. Morial Convention Center • New Orleans, Louisiana, USA

November 10–13, 2012 (Saturday – Tuesday) • AARC.org

AARC Congress

Anything but traditional . . . That's how AARC Congress 2012 will be remembered. With a new era of health care all but upon us, RTs across the country will be forced to provide more value in untraditional roles. AARC Congress 2012 is where the science of our past collides with the changes of our present to create the vision for our future. Don't miss out on this opportunity to attend the world's premier respiratory convention where the profession's thought leaders come together to present, network and learn about emerging technologies and the transfirmation of respiratory care. Serve your patients, share your mission, and advance your career at AARC Congress 2012… *a new tradition awaits you!*

Unless specified differently, all Congress events will be held at the Ernest N. Morial Convention Center.

On behalf of AARC President Karen Stewart and the AARC Board of Directors, we invite you to attend the largest respiratory care meeting in the world. At AARC Congress 2012 in New Orleans, LA, the AARC Program Committee will offer more of everything that matters to you and the patients you care for. You may attend other educational meetings, but none offer you all of the following...

- Receive the latest information on health care reform and how it will affect the job you do for your patients and your employer.
- Hear a government speaker from the Centers for Disease Control and Prevention discuss new definitions for Ventilator Associated Pneumonia.
- Learn, see and touch the latest advancements in patient care and technology at the AARC Exhibit Hall with all manufacturers in the industry.

2012 ome

CONGRESS 2012

New Orleans, LA • Nov. 10-13

300+ original research projects

150+ speakers

250+ sessions on current respiratory care topics

4 days of networking and education

3 days of exhibits with all companies in the industry

24+ CRCE credits

So register now and connect to the professional event where everything is about quality respiratory care

- Experience the results of research presented to you by your peers in 20 Open Forums over the four days of the Congress.
- Receive all the continuing education credit (CRCE) you need to maintain your state license.
- Participate in programs in all areas of respiratory care: adult critical care, neonatal and pediatric care, home care, continuing care, rehabilitation, diagnostics, transport, management, education, sleep, and long-term care, all presenting the latest information.

And much, much more. Read through this Advance Program and very rapidly you will realize why you must come to New Orleans and be part of the largest and most comprehensive respiratory care meeting anywhere, AARC Congress 2012. See you there!

Friday, Nov 9

Patient Safety Starts with You!

Friday, November 9, 2012 • 8:00 am - 4:45 pm

New Orleans Convention Center • New Orleans, LA

Course capacity is limited. Pre-registration required. Deadline: Monday, October 22, 2012, or when course is full. Approved for 6.16 hours of continuing education credits (CRCE). You must attend the entire course to receive CRCE credit; no partial credit will be awarded.

TARGET AUDIENCE:

Respiratory therapists, managers, educators, physicians, safety officers, risk managers.

With changes in reimbursement now directly tied to quality, hospitals must now be more vigilant than ever to enhance the care provided to patients. This pre-course will focus on how hospitals can improve the safety of patients through the avoidance of never events, sentinel events, hospital-acquired conditions, and near misses.

Introduction and Welcome
8:00 am – 8:05 am
Ira M Cheifetz MD FCCM FAARC/*Presiding*

Teamwork: Creating an Atmosphere of Patient Safety
8:10 am – 8:55 am
Ira M Cheifetz MD FCCM FAARC, Duke Children's Hospital, Durham NC
The TeamSTEPPS approach has become the foundation of patient safety across the country. This program is a powerful approach to improve the safety of patients throughout an institution. This presentation will review the basic principles of this evidence-based teamwork system. Attendees will learn skills to improve communication and teamwork skills among healthcare professionals. This leadoff session will set the stage for the remainder of the pre-Congress Course.

Smart Phones: Electronic Distraction or Beneficial Tool?
9:00 am – 9:40 am
Peter Papadakos MD, University of Rochester, Rochester NY
The use of smart phones in the medical environment is increasing at a dramatic rate. Is this to the benefit or detriment of the patients? Are smart phones augmenting patient care by providing up-to-the-minute patient-specific data and medical literature? Or are smart phones a distraction for clinicians? Laws in many states restrict the use of phones while driving. Should there be restrictions in the patient care environment? A leading expert will review this controversial topic and offer thoughts for the future.

Break
9:40 am – 9:55 am

Human Simulation As a Tool to Enhance Patient Safety
9:55 am – 10:35 am
David A Turner MD, Durham NC
The utilization of human simulation techniques has grown exponentially over the past several years and has become an integral component of education and training programs across a wide range of clinical disciplines. Implementation of this technology is an important approach in improving processes of care and overall patient safety. This presentation will review the various modalities of simulation-based training, review the data to support the implementation of these approaches, and discuss future directions for the use of simulation to enhance patient safety programs.

Never Events
10:40 am – 11:20 am
David Gourley MHA RRT FAARC, Chilton Hospital, Riverdale NJ
Certain events should never occur in the hospital setting. But which events can truly be eliminated? Is it realistic to eliminate nosocomial infections, patient falls, pressure ulcers, and others? This presentation will discuss this controversial topic from patient safety, clinical outcome, and financial reimbursement perspectives.

Panel Discussion
11:25 am – 11:45 am
Ira M Cheifetz MD FCCM FAARC
Peter Papadakos MD
David A Turner MD
David Gourley MHA RRT FAARC

Lunch – On Your Own
11:45 am – 1:15 pm

Sentinel Events, Critical Incidents, and Near Misses
1:15 pm – 1:55 pm
Steven E Sittig RRT-NPS FAARC, Mayo Clinic, Rochester MN
Although much focus is placed on sentinel events and lessons learned, often more can be learned from near misses. Systems for reviewing and learning from sentinel events, critical incidents, and near misses will be discussed. Suggestions for implementing systems to learn from medical errors will be offered and discussed.

Patient Safety Events: Should You Report It?
2:00 pm – 2:40 pm
Anthony L DeWitt JD RRT, Bartimus, Frickleton, Robertson & Gorny, PC, Jefferson City MO
What are the risks associated with the disclosure of medical errors to patients and their families? How much of the details should be disclosed? Is full disclosure really the optimal approach? What are the true medical-legal implications of a sentinel event medical error? These emotionally charged questions will be addressed using a case-based approach.

Break
2:40 pm – 2:55 pm

Expanding the Team Role in Preventing Hospital-Acquired Infections
2:55 pm – 3:35 pm
Jon C Carlson RRT-NPS, Mercy Hospital of Buffalo, Buffalo NY
Insight into the respiratory therapist's expanded role in the prevention of infections beyond the traditional scope of practice will be discussed. Methods to enhance culture change for infection control both within and beyond the ICU, including raised awareness and attention to detail, will be reviewed. Specific strategies will be offered to impact infection prevention, improve patient safety, and augment cost-control strategies.

Pressure Ulcers: Prevention at the Bedside Level
3:40 pm – 4:20 pm
Marty Visscher PhD, Cincinnati Children's, Cincinnati OH
Why do pressure ulcers occur? Are pressure ulcers related to less than optimal patient care or are some truly unavoidable? Strategies to eliminate this nosocomial situation will be discussed with a focus on respiratory care devices, including noninvasive ventilation interfaces.

Panel Discussion
4:25 pm – 4:45 pm
Steven E Sittig RRT-NPS FAARC
Anthony L DeWitt JD RRT
Jon C Carlson RRT-NPS
Marty Visscher PhD

Friday, Nov 9

CONGRESS 2012

Mechanical Ventilation 2012

Friday, November 9, 2012 • 8:30 am - 4:40 pm

New Orleans Convention Center • New Orleans, LA

Course capacity is limited. Pre-registration required. Deadline: Monday, October 22, 2012, or when course is full. Approved for 5.5 hours of continuing education credits (CRCE). You must attend the entire course to receive CRCE credit; no partial credit will be awarded.

OBJECTIVES: Changes in mechanical ventilation happen at lightning speed. New modes and strategies to liberate patients from ventilators come along faster than most clinicians can keep pace with. This symposium allows respiratory therapists from all disciplines to come together and learn from some of the world's leading experts in mechanical ventilation. Don't miss out on this exciting opportunity as our speakers will present material from patient synchrony, to disease specific ventilator strategies, ventilator discontinuation, NIV, and everything in-between. The day will conclude with a panel discussion with our experts. This is your unabated opportunity to ask our experts direct questions on topics that are most important to you.

Introduction and Format of the Course
8:30 am – 8:45 am
Neil MacIntyre MD FAARC, Duke University, Medical Center, Durham NC

Principles of Mechanical Ventilation
8:50 am – 9:25 am
Neil MacIntyre MD FAARC
Understanding the underlying principles of positive pressure ventilation is critical in providing safe and effective support. Modern mechanical ventilator function can be described by the three breath variables (trigger, gas delivery target, cycle) and the logic determining the pattern of breath delivery (mode). The physiologic effects of positive pressure ventilation are largely based on the equation of motion ($P = \dot{V} \times R + V/C$).

Patient-Ventilator Synchrony
9:30 am – 10:05 am
Richard Branson MS RRT FAARC, University of Cincinnati, Cincinnati OH
Patient ventilator interaction is important for patient comfort and success of mechanical ventilation. Asynchrony is associated with prolonged mechanical ventilation, and recognition of specific problems are key competencies of respiratory therapists. The most common types of asynchrony will be described along with potential remedies.

Demonstration – Ventilator Modes, Mechanics and Synchrony
10:10 am – 10:45 am
Neil MacIntyre MD FAARC and
John Davies MA RRT FAARC, Duke University Medical Center, Durham NC

Break
10:45 am – 11:00 am

Ventilator Management of ALI/ARDS – Lung Protection

11:00 am – 11:45 am
Michael Gentile RRT FAARC, Duke University, Medical Center, Durham NC
One of the main goals of mechanical ventilation is to support gas exchange. Questions arise as to how to accomplish this objective without causing iatrogenic injury to the lung. This lecture will describe the clinical strategies and supporting literature to provide lung protective ventilation to patients with ALI/ARDS.

Ventilator Management of Obstructive Airway Disease

11:50 am – 12:25 pm
Dean Hess PHD RRT FAARC, Massachusetts General Hospital, Boston MA
As with any mechanically ventilated patient, lung protective strategies should be used in the patient with obstructive lung disease. In patients with obstructive lung disease, the focus is on prevention of air-trapping and dynamic hyperinflation. Many of these patients benefit from noninvasive ventilation, as discussed in detail elsewhere in the program. Because they also benefit from inhaled bronchodilator therapy, aerosol delivery during mechanical ventilation will also be discussed.

Lunch – On Your Own

12:25 pm – 1:55 pm

Demonstration – Management of Severe Hypoxemia

1:55 pm – 2:30 pm
Neil MacIntyre MD FAARC
John Davies MA RRT FAARC
Michael Gentile RRT FAARC

The Process of Ventilator Discontinuation

2:35 pm – 3:10 pm
Dean Hess PHD RRT FAARC
It has become increasingly recognized that most mechanically ventilated patients do not require weaning. Rather, emphasis should be placed on resolution of the underlying disease process, avoiding the inappropriate use of sedation, and performing spontaneous breathing trials. Evidence does not support the use of any specific ventilator mode to facilitate weaning. Appropriately selected patients can be extubated to noninvasive ventilation. Some patients can be liberated from the ventilator but cannot be extubated; these patients often receive a tracheostomy.

Non-Invasive Ventilation

3:15 pm – 3:50 pm
John Davies MA RRT FAARC
This lecture will discuss how to identify patient ventilator asynchrony and conventional measures to promote synchrony. Novel modes to promote patient ventilator synchrony will also be discussed.

Break

3:50 pm – 4:05 pm

Panel Discussion – Interactive Case Studies

4:05 pm – 4:40 pm
Neil MacIntyre MD FAARC
Richard Branson MS RRT FAARC
John Davies MA RRT FAARC
Michael Gentile RRT FAARC
Dean Hess PHD RRT FAARC

AARC Congress 2012

Opening Session

8:30 am – 10:55 am
Thomas J Kallstrom MBA RRT FAARC AARC Executive Director/*Presiding*

AARC Awards Ceremony

8:30 am – 10:10 am
The ceremony recognizes the "doers" in the profession, from students to long established practitioners. Be there and applaud your peers. Today it's them; tomorrow it may be you!

Keynote Address

10:15 am – 10:55 am

35th Sputum Bowl® Preliminaries Competition

8:00 am – 6:00 pm
Deborah J Hendrickson RRT/*Presiding*

Supported by an unrestricted grant from COVIDIEN

Teams from the AARC State affiliates compete in the preliminary competitions. The top four teams will advance to the Finals on Monday evening, Nov. 12 along with the Student Sputum Bowl finalists.

Continuing Respiratory Care Education (CRCE)

AARC Congress 2012 is approved for all the credit hours you need to maintain your state license, more than 24 hours.

Saturday, Nov 10

Opening of Exhibit Hall

11:00 am

Karen J Stewart MS RRT FAARC/Presiding

The 2012 AARC President opens the Exhibit Hall. As the "Gold Standard" of all respiratory care meetings, AARC Congress 2012 presents to you all the manufacturers and suppliers in the industry. The Exhibit Hall offers attendees an opportunity to make purchases right on the spot, often at special discounts. Don't miss this great opportunity! The Exhibit Hall will be open from 11:00 am until 4:00 pm Saturday through Monday, Nov 10-12.

AARC Opening Reception

7:30 pm

Sponsored by Dräger

Presenting an OPEN FORUM® Abstract

11:05 am – 11:45 am

Teresa A Volsko MHHS RRT FAARC, Youngstown OH

The purpose of this presentation is to introduce the neophyte research presenter to the customs, roles and experience of presenting an OPEN FORUM session. Included will be the stages of an OPEN FORUM presentation: setting up the poster, interacting with the moderators and OPEN FORUM attendees presenting at the podium and participating in moderated audience discussion of the research.

Orientation for First-time Attendees

11:05 am – 11:50 am

Presented by the AARC Program Committee, Cheryl A Hoerr MBA RRT CPFT FAARC/*Presiding*

Are you a first-time attendee with unanswered questions about who to see, where to go, and what to expect from the meeting? If so, then attendance at this presentation is a MUST for you! This presentation provides first-time attendees with an overview of the entire AARC Congress and includes suggestions on how to maximize your time not only at the educational session, but also at the exhibits and peripheral activities as well.

AARC CONGRESS 2012

New Orleans, LA • Nov. 10-13

Exhibit Hours at The Buying Show:
Saturday - Monday, Nov 10 - 12, 11:00 am - 4:00 pm

Saturday, Nov 10

Open Forums #1 and #2

12:30 pm – 2:25 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Pediatric Respiratory Emergencies

1:00 pm – 1:40 pm

Pediatric Respiratory Emergencies

Nancy Johnson RRT-NPS, Cleveland OH

Whether you work in an outpatient clinic, emergency department, or inpatient environment, you will invariably be faced with pediatric respiratory emergencies. This presentation by a national leader in the field will review the assessment of and treatment for the most common pediatric respiratory emergencies. An emphasis will be placed on patient safety and optimal outcomes.

Tracheostomy Care & the RT: Insertion, Maintenance and Decannulation

1:00 pm – 1:40 pm

Tracheostomy Care & the RT: Insertion, Maintenance and Decannulation

Faten I Al-Hubaishi BSc CRT RRT-NPS, Saudi Arabia

This international speaker will discuss how tracheostomy care is provided in Saudi Arabia. The presenter will highlight care provided to all age groups and in all settings. Multi-disciplinary opportunities will be presented in which the respiratory therapist can collaborate with other medical providers to optimize care delivery to patients with tracheostomy tubes.

RESPIRATORY CARE

Open Forum® Symposia

Supported by an unrestricted educational grant from monaghan™

Clinicians present the results of their scientific studies. Abstracts with a similar focus are clustered into a symposium to encourage discussions and interactions among investigators and observers; posters expand the information presented. Twenty Open Forum Symposia will be presented during the four days of AARC Congress 2012. See pages 98–107 for symposium sessions, abstracts titles and authors.

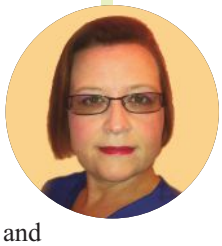
The Dynamic Life of a Transport Call…From Referral to Pick Up

1:00 pm – 2:30 pm

1:00 pm – 1:40 pm

From Referral to Arrival…Behind the Scenes of a Transport Call

Tabatha Dragonberry RRT-NPS AE-C, Washington DC



This lecture will provide insight into the initial referral call for patient transport and what information should be communicated and collected. The presenter will share algorithms and highlight the decision-making process for the mode of transport. Risks and benefits of transport will also be discussed as well as the most common obstacles that occur during transport.

1:50 pm – 2:30 pm

Preparing the Pediatric Patient for Transport from the Adult ER

Tabatha Dragonberry RRT-NPS AE-C

This lecture will discuss what to expect when a transport team arrives on scene and what expectations they may have from the referring hospital. This lecture will provide step-by-step instructions in making the transfer as safe as possible. The presenter will also touch on clinical differences between the two primary modes of transportation.

Characteristics of Normal Breathing: Should We Apply These When We Ventilate Patients?

1:00 pm – 2:55 pm

1:00 pm – 1:35 pm

Lessons Learned from Normal Breathing at Rest and During Exercise

Bhiken Naik MBBCh, Charlottesville VA

This presentation will review and highlight the normal control mechanisms for maintaining homeostatic gas exchange as well as pH and metabolic demands under varying physiological conditions. The concept of intrinsic biological variability in respiratory control will be introduced and its role in normal and injured lung models.

1:40 pm – 2:15 pm

Are We Harming Normal Lungs with Conventional Ventilator Settings?

Charles G Durbin Jr MD FAARC, Charlottesville VA

New and accumulating data suggests that conventional ventilation in patients with normal lungs can cause injury. Experimental human and animal data will be used to examine causative factors and suggest possible clinical solutions.

2:20 pm – 2:55 pm

What Happened to the "Sigh" in Mechanical Ventilation?

Bhiken Naik MBBCh

Sigh breaths are a consistent feature of mammalian respiration. They are episodic larger tidal volume breaths thought to recruit atelectic lung units and improve compliance. The evidence for the use of sigh respiration in lung injury models will be reviewed. A contemporary role of sigh respration in low-tidal volume ventilation will be developed.

Special Events

Breakfast Symposia

Held in the morning, symposia present timely information on topics affecting your practice and are free of charge and approved for CRCE credits. In mid-October Congress registrants will receive an e-mail with the scheduled topics, speakers, descriptions and instructions on how to register on-line. Course capacities will be limited, first-come, first served.

AARC Opening Reception

Saturday. November 10, 7:30 pm, Sponsored by Dräger

5K Fun Run and Walk

Sunday. November 11, 6:30 am. Sponsored by Roche

35th Sputum Bowl Finals

Monday. November 12, 7:00 pm. Sponsored by COVIDIEN

Saturday, Nov 10

Management Boot Camp: Part I

1:00 pm – 3:15 pm

1:00 pm – 1:30 pm

Promoting Your Services From the Front Line: What to Say and Who to Tell!

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

Most clinicians would define their value by the quantity of work performed, but it's much more than that. If most RTs can't define it, how are others to appreciate our role as healthcare providers? This presentation will answer the age-old question: "How do we define value?" This presentation will not only answer that question, but will provide valuable tools to the RT manager on documenting outcomes and communicating our value to all stakeholders in terms they can understand.

1:35 pm – 2:05 pm

Coaching for Improved Work Performance

Scott Reistad RRT CPFT FAARC, Colorado Springs CO

One of the many skills that a successful leader must demonstrate is the ability to effectively coach their staff to improve work performance. This is particularly challenging when one examines the diversity and unique characteristics of a typical respiratory care department. Does this diversity make the profession unique from others who also coach for improved performance? Attend this lecture to find out!

2:10 pm – 2:40 pm

What to Do When the People You Work With Drive You Crazy

Mark D Babic RRT, Lakewood OH

Even on a good day, you can name at least one difficult person at work. On a bad day you can probably rattle off four or five without even pausing. Almost on a daily basis you've got your hands full with people who are making it difficult for you to do your job and stay sane. The presenter will focus on finding common ground in everyday interactions and negotiating differences with your subordinates. This lecture is not only for managers but for anyone who thinks their co-workers are driving them crazy!

2:45 pm – 3:15 pm

Be Seen, Not Overlooked: 10 Value-Added Ideas to Show Your Worth

Suzan J Herzig RRT, Alpine CA

Neb delivery, ABGs, and chest physiotherapy are not enough. Consults and vent management get us closer, but we need to do more. This presenter will describe 10 distinct, but very obvious responsibilities that every respiratory therapy department can perform to enhance their value to patients, physicians, and their hospital.

Hospital to Home Transitions: COPD Best Practices

1:00 pm – 3:15 pm

1:00 pm – 1:30 pm

RT-Driven Discharge Planning for COPD Patients

Gary L Brown RRT FAARC, Fargo ND

This presentation will discuss important factors RTs must consider when discharging COPD patients following treatment for an exacerbation. The impact of co-morbid conditions will be addressed. Most importantly, the role of the RT will be highlighted in this process and ways in which they can collaborate with nursing, case management and the discharge team.

1:35 pm – 2:05 pm

The Successful Hospital-to-Home Transition: Risk Factors & Treatment Strategies

Brian W Carlin MD FAARC, Pittsburgh PA

This session will discuss available measures to help quantify the risks for re-hospitalization of COPD patients. The attendee will leave this presentation with the knowledge to develop appropriate plans of care to reduce ED visits, hospital admissions, and appointments with primary care physicians.

2:10 pm – 2:40 pm

Developing Standards of Care in an Era of Incentives and Penalties

Dan Easley, Ford City PA

This presentation will discuss those therapies COPD patients may need from home care companies following hospital discharge. A discussion of respiratory-focused interventions will be presented within the context of a novel hybrid home care model. Don't miss out on this opportunity to hear how one home care company revolutionized the way in which care in the home is delivered.

2:45 pm – 3:15 pm

The RT as Case Manager in the Home Setting: Connecting the Dots

Kim Wiles RRT, Ford City PA

This presentation will discuss the role of the RT when transitioning the COPD patient from hospital to home. Can RTs make a difference by delivering more than just therapy and equipment? Can RTs do it alone? The development of partnerships with other health care providers will be discussed.

A Blueprint for Starting Your Sleep Center/Lab

1:00 pm – 3:20 pm

1:00 pm – 1:40 pm

Creating the Business Plan

Frank R Salvatore RRT MBA FAARC, Middletown NY

The speaker will explain the basics of a business plan and delineate the steps to getting started. Further detail will be provided including the necessary data gathering that needs to take place and the importance of involving all stakeholders from the beginning of the process.

1:50 pm – 2:30 pm

Ensuring Effective Operations

Camden J McLaughlin RRT FAARC, Blacksburg VA

This presentation will review the start-up of a sleep center from design and space considerations to staffing and training personnel. The speaker will review AASM standards and discuss how the goal of accreditation can influence operational set-up. The speaker will also examine the benefits a high-quality sleep center can bring to other service lines.

2:40 pm – 3:20 pm

Competency Assessment for Sleep Personnel

Sheri Tooley BSRT RRT-NPS CPFT AE-C, Adams Center NY

The speaker will review accreditation standards regarding staff competency validation. The presentation will examine competency assessment beyond traditional standards and discuss the influence individual state laws have on sleep center operations. There will also be a discussion about methods to ensure safety in the lab.

Saturday, Nov 10

Year in Review 2012

1:00 pm – 4:25 pm

1:00 pm – 1:30 pm
Year in Review: Chronic Obstructive Pulmonary Disease
Stephen I Rennard MD, Omaha NE
A review of papers published in 2012 related to chronic obstructive pulmonary disease.

1:35 pm – 2:05 pm
Year in Review: Asthma
Timothy R Myers MBA RRT-NPS, Irving TX
A review of papers published in 2012 related to asthma.

2:10 pm – 2:40 pm
Year in Review: Cystic Fibrosis
Teresa A Volsko MHHS RRT FAARC, Youngstown OH
A review of papers published in 2012 related to cystic fibrosis.

2:45 pm – 3:15 pm
Year in Review: Sleep-Disordered Breathing
Suzanne Bollig RRT RPSGT REEGT FAARC, Hays KS
A review of papers published in 2012 related to sleep-disordered breathing.

3:20 pm – 3:50 pm
Year in Review: Noninvasive Ventilation
Dean R Hess PhD RRT FAARC, Boston MA
A review of papers published in 2012 related to noninvasive ventilation.

3:55 pm – 4:25 pm
Year in Review: Invasive Mechanical Ventilation
Richard H Kallet MS RRT FAARC, San Francisco CA
A review of papers published in 2012 related to invasive mechanical ventilation.

Disclosure of Faculty Conflict of Interest

- The AARC remains strongly committed to providing the best available evidence-based clinical information to participants of this educational activity and requires an open diclosure of any potential conflict of interest identified by our faculty members.
- It is not the intent of the AARC to eliminate all situations of potential conflict of interest, but rather to enable those who are working with the AARC to recognize situations that may be subject to question by others.
- All disclosed conflicts of intesest are reviewed by the AARC Program Committee to ensure that such situations are properly evaluated and, if necessary, resolved.
- The AARC educational standards pertaining to conflict of interest are intended to maintain the professional autonomy of the clinical experts, which is essential in promoting a balanced presentation of science.
- Through our review process, all AARC CRCE activities are ensured of independent, objective, scientifically balanced presentations of information.
- Disclosure of any real or preceived conflict will be acknowledged at the onset of each presentation.

Industry Support Statement

- The AARC is proud of the collaboration we have had with friends in industry for many years, and we wish to acknowledge our appreciation for their unrestricted educational grants for AARC Congress 2012.
- All sponsored sessions are identified by the program, handouts, and signage.
- The AARC accepts support only on the condition that the Program Committee be the sole organizer of all sessions, including selection of speakers and topics.

Caring for the Aging Chronic Lung Disease Patient

1:45 pm – 3:10 pm

1:45 pm – 2:25 pm

Pulmonary Rehab: What You Should Know About Caring for the Aged Patient

Trina M Limberg RRT FAARC FAACVPR, San Diego CA

This presentation will provide a brief overview on improving the assessment and delivery of pulmonary rehabilitation for the older adult. The speaker will briefly review setting training targets and progressing elderly patients through the various training modalities.

2:30 pm – 3:10 pm

Providing Optimal Assessment and Training of the Elderly Patient in Pulmonary Rehabilitation

Brian W Carlin MD FAARC, Pittsburgh PA

The presenter will review exercise testing, VO_2 and six-minute walk testing. There will also be a review of evidence-based medicine recommendations for pulmonary rehab patients and how these recommendations can be adapted for exercise of the elderly patient.

Severe Pediatric Asthma

1:45 pm – 4:00 pm

1:45 pm – 2:15 pm

Current State of Severe Asthma

Bruce K Rubin MD MEngr MBA FAARC, Richmond VA

Despite advances in prevention and treatment, the morbidity associated with pediatric asthma remains significant. One of the leading experts in the field will review the current state of severe pediatric asthma. The presentation will include insight into the genetic and environmental factors associated with pediatric asthma along with an overview of the current therapeutic approach.

2:20 pm – 2:50 pm

Alternative Aerosol Therapy

Brian K Walsh MBA RRT-NPS FAARC, Dallas TX

Of course, beta agonists and corticosteroids are nebulized, but what about novel alternative approaches? This presentation will investigate the role of aerosolized magnesium sulfate, alkaline albuterol, and other agents. Speculations will be offered for the future management of the pediatric patient with severe asthma.

2:55 pm – 3:25 pm

Inhaled Volatile Anesthetics

John Arnold MD, Boston MA

A controversial aspect of the management of the pediatric patient with severe asthma is the use of inhaled volatile anesthetics. The use of this therapy is variable across the country. Do inhaled volatile anesthetics augment the more standard therapeutic approach to severe asthma? Are the environmental and staff exposure concerns really valid? Is specialized training required? These and other clinically relevant questions will be answered.

3:30 pm – 4:00 pm

Extracorporeal CO_2 Removal

Peter Betit BSRT RRT-NPS FAARC, Boston MA

When all else fails, is extracorporeal carbon dioxide removal a realistic approach? If so, can patients with severe status asthmaticus be safely transported to a center that can provide this modality? What are the risks and benefits of such an approach? These questions will be answered while providing an overview of this non-traditional approach to the child with severe status asthmaticus.

Saturday, Nov 10

Challenges in Medical Transport: Neonatal Airways and Licensure

2:40 pm – 4:10 pm

2:40 pm – 3:20 pm

Interstate Licensure: What You Need to Know Before You Cross the Line

Alex Brendel RRT-NPS MBA, Roanoke VA

Currently less than 25 percent of all states in the U.S. have a formal exemption to allow a respiratory therapist to transport a patient into or out of another state. Healthcare professionals must make sure out-of-state legislation and licensure is updated to meet patients' needs. This lecture will discuss the process of reciprocity licensure exemptions for Virginia, North Carolina and West Virginia. The goal is to encourage respiratory therapists who may face this issue to go back to their home state and work to address this issue with their state society.

3:30 pm – 4:10 pm

Premedication for Non-Emergent Endotracheal Intubation of the Neonate: a Transport Team's Perspective

Alex Brendel RRT-NPS MBA

In years past, transport teams rarely premedicated infants before intubation. Rarely would 2 or 3 attempts be required for an airway to be established. In an effort to improve first attempt intubation rates, premedicating infants according to American Academy of Pediatrics recommendations is essential. This presentation will discuss current protocols for premedication prior to intubation. It will review medication choice and sequence of administration, as well as, discuss contraindications and lessons learned.

Open Forum #3 and #4

3:00 pm – 4:55 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Emerging Controversies in ARDS

3:00 pm – 4:55 pm

3:00 pm – 3:35 pm

Are Neuromuscular Blockers Helpful in ARDS?

William E Hurford MD, Cincinnati OH

There are fewer challenges more difficult for an RT than managing a patient with ARDS. What adjunct treatment options are available? Do they work? This lecture will discuss the role of neuromuscular blockers (NMBs) in the treatment of ARDS. Guidelines for use and clinical outcomes associated with the use of NMBs will be discussed.

3:40 pm – 4:15 pm

Should Cooling and CO_2 Removal Be Included in the Treatment of Severe ARDS

Ulrich Schmidt MD PhD, Boston MA

Low tidal volume ventilation is standard of care in ARDS. Increased CO_2 levels, however, limit the ability to decrease tidal volumes. This lecture will focus on complementary strategies to further decrease tidal volume by either removing CO_2 or decreasing CO_2 production.

4:20 pm – 4:55 pm

ECMO: A New Frontier for the Management of the ARDS Patient?

David A Turner MD, Durham NC

Extracorporeal membrane oxygenation has been traditionally used as rescue strategy for reversible causes of severe respiratory failure…. an option traditionally reserved for the 11th hour when all hope is lost. This lecture will focus on the technological advances in ECMO services and why this technology should now be considered as an earlier option for management of the ARDS patient. The presenter will also discuss a multi-disciplinary approach needed to stabilize patients on ECMO.

Six-Minute Walk vs. Control Work Rate: Measuring COPD Outcomes

3:15 pm – 3:45 pm

Six-Minute Walk vs. Control Work Rate: Measuring COPD Outcomes

Mark Millard MD, Dallas TX

The presenter will discuss the details from an investigator initiative comparing the six minute walk test to constant work rate testing. The results of the study will be compared against the current available literature.

Research Is Not a Bad Word: Infusing Research into RT Training

3:20 pm – 4:15 pm

Research Is Not a Bad Word: Infusion of Research as a Standard in RT Training

Georgianna Sergakis PhD RRT RCP, Columbus OH

Future therapists should be prepared to thrive in the current healthcare environment and to promote the further evolution of the therapist's role in healthcare delivery. Promoting an understanding of how research influences this future is the key to the preparation of tomorrow's workforce. Strategies to infuse research into RT preparation ranging from the first day of class to complete immersion in a research experience will be presented.

Proving the Value of RT Services

3:20 pm – 4:45 pm

3:20 pm – 4:00 pm

Proving the Value of RT Services: What Does the Evidence Say?

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

In a new era of healthcare delivery, all providers must deliver value… respiratory included. Hospitals will be forced to become more efficient, lean and leverage economies of scale. Departments/individuals unable to show value will become obsolete. This presentation will provide a variety of both evidence-based research as well as anecdotal studies that demonstrate the value of respiratory therapists. Speaker will highlight outcome measures everyone should include on their performance improvement dashboard that includes clinical quality, patient/family satisfaction, and financial performance.

4:05 pm – 4:45 pm

Data Management for the RT Manager

Richard M Ford RRT FAARC, San Diego CA

Data, metrics, and statistics – there's no shortage as an RT manager. How you acquire the data and what you do with it is likely to define your performance. This presentation will provide useful tools for the RT manager on how to document productivity utilizing information from the "AARC Uniform Reporting Manual." Understanding and interpreting metrics captured with the AARC Benchmarking Program will also be discussed.

Saturday, Nov 10

SAFETY AND SLEEP

3:30 pm – 5:00 pm

3:30 pm – 4:10 pm

Safety in the Sleep Lab

Crintz Scott CRT RPSGT, Lakewood CO

This presentation will cover a "laundry list" of safety issues that must be addressed by every sleep center. The speaker will discuss environmental safety issues including the importance of having a comprehensive fire safety and electrical safety plan. Other safety processes that are essential include policies and procedures for the safety of both patients and staff. The speaker will share details that must be included in your sleep center's plan.

4:20 pm – 5:00 pm

Working Nights: Same Shift, Different Day

Crintz Scott CRT RPSGT

The speaker will define the term "shift worker" and describe both the symptoms and consequences of the Shift Worker Sleep Disorder. With The Joint Commission's increasing concerns over worker fatigue, the speaker will provide practical tips to combat the effects that shift work has on the normal circadian rhythm. Sleep technicians are well prepared to provide diagnostic and consultative services to patients with this disorder, but they must be astute enough to treat themselves as well.

Using "Rule of Two"™ for Assessing Asthma Control

3:50 pm – 4:20 pm

Using "Rule of Two"™ for Assessing Asthma Control

Mark Millard MD, Dallas TX

This trademarked tool has been used in various clinical and non-clinical settings to evaluate asthma control and monitor response to prescribed therapy. The speaker will share his team's experience in validating this scientific tool and using it to predict "out of control" asthma. Will "Rule of Two" help manage your asthmatic population? Attend this lecture to find out!

The Difficult Pediatric Airway: Tricks of the Trade

4:05 pm – 4:45 pm

The Difficult Pediatric Airway: Tricks of the Trade

John Arnold MD, Boston MA

One of the scariest encounters for a respiratory therapist is the difficult pediatric airway. Recognizing and preparing for the difficult airway situation is essential. This presentation will review assessment techniques, strategies, and equipment utilized when traditional direct laryngoscopy is impossible.

Education Section Membership Meeting

4:20 pm – 5:00 pm

Joseph Sorbello MEd RRT/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members are invited to attend and to participate.

Challenges in Medical Transport: Capnography

4:20 pm – 5:00 pm

Challenges in Medical Transport: Capnography

Wade Scoles RRT-NPS NREMT, Spokane WA

Capnography values are often out-of-sync with ABG results and arterial CO_2. This presentation will address the physiology behind the phenomena and why it happens. The lecturer will also discuss case scenarios using actual capnography waveforms to illustrate the inherent values and limitations of capnography in the transport environment. Is there a role for capnography during patient transport? Attend this presentation to find out!

Long-Term Care Section Membership Meeting

4:25 pm – 5:00 pm

Gene Gantt RRT/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members are invited to attend and to participate.

Optimizing the Patient-Ventilator Interaction

4:30 pm – 5:00 pm

Optimizing the Patient-Ventilator Interaction

Robert L Chatburn MHHS RRT-NPS FAARC, Cleveland OH

Patient-ventilator asynchrony (PVA) can be quite obvious, whereas other occurrences are difficult to diagnose. Without intervention, PVA can contribute to adverse outcomes. This lecture will discuss strategies for the bedside clinician to use to detect and minimize its occurrence. Attend this lecture and take your ventilator management skills to the next level.

AARC Congress 2012

AARC Annual Business Meeting

8:30 am – 9:20 am
Karen J Stewart MS RRT FAARC, AARC President/*Presiding*

The official Annual Business Meeting of AARC. 2013 AARC Officers, Board of Directors and officers from the House of Delegates are installed. Reports from AARC leadership are presented. The meeting concludes with an address from 2013/2014 AARC President, George Gaebler, MSEd RRT FAARC.

39th Donald F Egan Scientific Memorial Lecture

9:30 am – 10:20 am

This lecture provides an overview of in-depth information about dynamic aspects of pulmonary physiology, pulmonary medicine, or clinical respiratory care. The lectureship is extended to a recognized world-class participant in the area of interest — investigator, clinician, or academician.

Stefano Nava MD, Bologna, Italy

Behind a Mask: Tricks, Pitfalls and Prejudices for Noninvasive Ventilation – "You Are Wearing a Mask and You Look Better that Way" Iggy Pop (the Mask)

Dr. Nava will discuss the key factors to improve NIV success (tricks), the most common mistakes clinicians face when applying NIV (pitfalls), and the most common barriers that limit the use of NIV in real life (prejudices). Don't miss out on this once in-a-lifetime opportunity to hear this international speaker and NIV expert!

Sunday, Nov 11

35TH SPUTUM BOWL® PRELIMINARIES COMPETITION

8:00 am – 6:00 pm

Deborah J Hendrickson RRT/*Presiding*

Supported by an unrestricted educational grant from COVIDIEN

Teams from AARC state societies compete in the preliminary competitions. The top four teams will advance to the Finals on Monday evening, Nov 12, along with the Student Sputum Bowl finalists.

5K FUN RUN AND WALK

Sunday, November 11, 6:30 am sponsored by Roche

Continuing Respiratory Care Education (CRCE)

AARC Congress 2012 is approved for all the credit hours you need to maintain your state license, more than 24 hours.

Exhibit Hours at The Buying Show:
Saturday - Monday, Nov 10 - 12, 11:00 am - 4:00 pm

Sunday, Nov 11

Open Forums #5 and #6

10:00 am – 11:55 am

Supported by an unrestricted educational grant from monaghan

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

IMPROVING SURVEILLANCE FOR VENTILATORY-ASSOCIATED EVENTS IN ADULTS

10:30 am – 11:10 am

Improving Surveillance for Ventilator-Associated Events in Adults

Shelley Magill MD, United States Government Centers for Disease Control and Prevention

Surveillance for ventilator-associated pneumonia is challenging due to the lack of an objective, reliable definition. As healthcare-associated infections are increasingly used in public reporting, interfaculty comparisons, and pay-for-reporting programs, having objective, reliable definitions is more important than ever. A new approach to surveillance for ventilator-associated events in adult patients will be discussed.

Leadership Roles in Patient Population Management

10:30 am – 11:20 am

Taking a Leadership Role in Patient Population Management

Jon Carlson RRT-NPS, Buffalo NY

The presenter will review opportunities for respiratory therapists to lead evidence-based initiatives from respiratory, pulmonary rehab, and sleep perspectives. The presentation will review the successful planning and partnering of value-added programs and protocols driven by RTs to prepare for patient population management.

RESPIRATORY CARE

Open Forum® Symposia

Supported by an unrestricted educational grant from monaghan

Clinicians present the results of their scientific studies. Abstracts with a similar focus are clustered into a symposium to encourage discussions and interactions among investigators and observers; posters expand the information presented. Twenty Open Forum Symposia will be presented during the four days of AARC Congress 2012. See pages 98–107 for symposium sessions, abstracts titles and authors.

Sleep Medicine: A Physician's Prospective

10:30 am – 11:20 am

Sleep Medicine: A Physician's Prospective

Neale Lange MD FCCP DABSM, Lakewood CO

We're all familiar with the more notable sleep-disorders, but what about the atypical conditions diagnosed in a sleep facility? The goal of this session is for the participants to understand the spectrum of sleep disorders and appreciate the range of conditions that can be addressed by a sleep physician. Problems with sleep are not just limited to respiratory compromise. There are more comprehensive issues that all RTs working in sleep labs should be aware of.

What's New in Pulmonary Rehabilitation?: The Updated (2012) ATS/ERS Guidelines

10:30 am – 11:20 am

What's New in Pulmonary Rehabilitation?: The Updated (2012) ATS/ERS?

Brian W Carlin MD FAARC, Pittsburgh PA

Do you manage a PR program? Do you work in one? If so, this is a can't miss presentation for you. This physician speaker will highlight the essential components for any pulmonary rehabilitation program, list the updated ATS/ERS 2012 guidelines and deliver a step-by-step strategy to include these guidelines into the everyday practice of pulmonary rehabilitation.

Alpha-1 Antitrypsin Deficiency: Inherited But No Less Serious

10:30 am – 11:20 am

Alpha-1 Antitrypsin Deficiency: Inherited Condition But No Less Serious

Jamie Stoller MD MSc FAARC, Cleveland OH

Alpha-1 Antitrypsin Deficiency or Alpha-1 is a genetic (inherited) condition that may result in serious, chronic lung and/or liver disease at various ages of life (children and adults). This life-threatening condition is caused by an abnormal alpha-1 protein mainly produced by the liver and typically diagnosed by a blood test. This presentation will review features of the disease's clinical presentation, pathophysiology, and treatment interventions.

Nitric Oxide Controversies

10:30 am – 11:55 am

10:30 am – 10:55 am

iNO and Premature Infants: A Critical Appraisal

John Salyer RRT-NPS FAARC, Seattle WA

What is the role of inhaled nitric oxide for the premature infant? The medical literature is conflicting. Which study do you believe? Are there true clinical benefits? If so, are the benefits worth the financial costs? These and other clinically relevant questions will be discussed.

11:00 am – 11:25 am

iNO Delivery During NIV: Is What You Set What You Get?

Robert M DiBlasi RRT-NPS FAARC, Seattle WA

Inhaled nitric oxide is being used at an increasing rate with noninvasive ventilation. But is the current technology capable of accurately delivering nitric oxide? This presentation will discuss the current technology and its clinical implications for use with noninvasive ventilation for infants and children.

11:30 am – 11:55 am

Off-label Use of iNO: Clinical and Financial Implications

Jenni Raake RRT-NPS MBA, Amelia OH

This presentation will review the evidence and outcomes related to off-label use of inhaled nitric oxide. Potential beneficial clinical outcomes will be discussed. Financial and reimbursement issues will be considered. At the end of the day, what is the balance between clinical outcomes and cost?

Sunday, Nov 11

Patient Education Skills: A Therapist's Toolbox

10:30 am – 11:55 am

10:30 am – 10:55 am

What Do You Want to Achieve? Needs Assessment and Setting Objectives

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

Health promotion and disease prevention in the form of self-management, self-care, and wellness are major aspects of today's healthcare system. This session will allow the participant to explain the importance of determining the needs of the learner, to develop goal statements when initiating patient education and to develop achievable goals for patient education.

11:00 am – 11:25 am

Delivering the Goods: Teaching Techniques

Shawna Strickland PhD RRT-NPS AE-C FAARC, Columbia MO

Second of the three-part series, this session will allow the participant to identify appropriate tactics that can positively impact the patient education session, discuss various delivery methods available to the patient educator, and determine the appropriateness of delivery methods based on situational characteristics.

11:30 am – 11:55 am

Did You Achieve Your Goal? Outcomes Assessment

Sarah Varekojis PhD RRT RCP, Columbus OH

Third in the three-part series, this session will allow the participant to identify and discuss characteristics of effective teachers. The presenter will also distinguish between outcome and process assessment. Attend this presentation and identify typical outcome measures. Did you achieve your goal?

Ventilation Toolbox: Using Tools to Optimize Care

10:30 am – 12:10 pm

10:30 am – 11:00 am

Esophogeal Pressure Monitoring

Carl Hinkson RRT FAARC, Seattle WA

Using a balloon-tipped catheter to measure esophageal pressure allows clinicians to estimate pleural pressure and calculate transpulmonary pressure. This presentation will discuss esophageal pressure monitoring calculations of transpulmonary pressure and work of breathing and how these measurements are impacted by the other structures in the chest and abdomen.

11:05 am – 11:35 am

Airway Graphics

Rory Mullin RRT, Cleveland OH

The interaction of a mechanical ventilator and the cardiopulmonary system is complex. Often times patient parameters provided by the ventilator are simply not enough for the respiratory therapist. This lecture will discuss the clinical utility of airway graphics in optimizing the patient-ventilator interaction.

11:40 am – 12:10 pm

Airway Mechanics

Michael A Gentile RRT FAARC, Durham NC

Airway mechanics provide clinicians with information about air flow limitation and pulmonary compliance. This presentation will describe the methods for and clinical utility of assessing airway mechanics. The presenter will discuss the most current literature and its relevance on clinical practice.

Professor's Rounds: Critically Ill Children – What Do They Teach Us About Caring for All Patients?

11:15 am – 12:05 pm

Professor's Rounds: Critically Ill Children – What Do They Teach Us About Caring for All Patients?

Professor: Charles G Durbin Jr MD FAARC, Charlottesville VA

Presenter: Ira M Cheifetz MD FCCM FAARC, Durham NC

Many therapies currently employed in adults were initially tried and found successful in critically ill infants and children. In this session, classic pediatric cases involving ventilation modes such as HFOV, respiratory and hemodynamic monitoring techniques, evaluation of cardiorespiratory interactions, and the use of ECMO will be presented. These will be discussed and their implications for adult patients emphasized. Newer concepts in pediatric critical care that have universal impact will be mentioned.

Cost Containment in the Changing Healthcare Environment – Are You Focused on the Right Things?

11:25 am – 12:05 pm

Cost Containment in the Changing Healthcare Environment – Are You Focused on the Right Things?

Cheryl A Hoerr MBA RRT CPFT FAARC, Rolla MO

You've heard the phrase repeatedly: reduce cost but maintain service and outcomes. If this seems impossible, take comfort in knowing that you're not alone. Efforts at reducing staffing are often short sighted and don't accomplish what they set out to do. Many organizations have achieved cost reduction through supply chain management. This presentation will outline some of the challenges of cost containment and present a new perspective.

Cardiovascular Consequences of Obstructive Sleep Apnea

11:25 am – 12:05 pm

Cardiovascular Consequences of Obstructive Sleep Apnea

Amado X Freire MD MPH D-ABSM FACP FCCM FAASM, Memphis TN

This presentation will review cardiovascular disease states that relate to the cause and effect of obstructive sleep apnea. The presenter will define the relationship of atrial fibrillation, ischemic events, and hypertension to obstructive sleep apnea. Following this lecture, attendees will be able to evaluate patient populations with obstructive sleep apnea and cardiovascular disease and suggest best treatment options.

Chronic Critical Illness Syndrome and the Long-Term Acute Care RT

11:25 am – 12:05 pm

Chronic Critical Illness Syndrome and the Long-Term Acute Care RT

Ralph Orange AS RRT, Wilmington DE

The chronic critical illness syndrome (CCIS) is an emerging and complicated entity in the long-term care setting. The pathophysiologic concept of allostatic burden will be presented along with a review of the CCIS literature, with special emphasis on the role of the RT in caring for the complex patients.

Sunday, Nov 11

Asthma Masquerader: Is It Asthma or Vocal Cord Dysfunction?

11:25 am – 12:05 pm

Asthma Masquerader: Is It Asthma or Vocal Cord Dysfunction?

Paul F Nuccio MS RRT FAARC, Boston MA

Many signs and symptoms mimic the disease of asthma in the pediatric population, especially under the auspices of wheezing. Vocal Cord Dysfunction is one of these asthma masqueraders. This lecture will describe the role of the respiratory therapist and the importance of pulmonary function testing in disease separation.

Open Forums #7 and #8

12:30 pm – 2:25 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Policy and Procedure Formats That Improve Care and Empower RTs

1:00 pm – 1:50 pm

Policy and Procedure Formats That Improve Care and Empower RTs

Jon Carlson RRT-NPS, Buffalo NY

RTs in most departments present with a range of skills and experience levels. The physicians and mid-level practitioners whom the RTs interact with often possess various levels of expertise as well. Attend this lecture to hear how policy and procedure formatting and other bedside tools can be used to develop practice improvement strategies. The presenter will clearly explain how data-driven outcomes establish a level playing field and common understanding with other members of the healthcare team.

Neonatal Ventilation

1:00 pm – 1:50 pm

Neonatal Ventilation

Sherry Courtney MD, Stony Brook NY

The field of neonatal mechanical ventilation, both invasive and noninvasive, has advanced as much as any other aspect of respiratory care over the past decade. This leading neonatologist will describe the current state of neonatal ventilation with an emphasis on the available medical literature. Speculations for the future of this important aspect of respiratory care will be offered.

Reducing Perioperative Morbidity for the OSA Patient: Developing an Effective Management Program

1:00 pm – 1:50 pm

Reducing Perioperative Morbidity for the OSA Patient: Developing an Effective Management Program

Brian W Carlin MD FAARC, Pittsburgh PA

This session will review the evidence regarding the implications of anesthesia/surgery for patients with obstructive sleep apnea (both diagnosed and undiagnosed). The presenter will review one hospital's strategy for management of such patients and will include the successes, pitfalls, and challenges of that program.

Severe Exercise-Induced Hypoxemia – What's a Rehab Clinician to Do?

1:00 pm – 2:05 pm

1:00 pm – 1:30 pm

Assessment, Exercise, Safety and Adjuncts to Care

Chris Garvey FNP MSN MPA AE-C FAACVPR, Daly City CA

Nearly 20% of patients receiving pulmonary rehabilitation demonstrate severe exercise-induced hypoxemia (SpO_2 < 88% despite oxygen ≥ 6 LPM). No current guidelines are available for assessment and management of this common clinical finding. The speaker will review assessment, management and monitoring considerations in the rehabilitation setting and describe safety components that should be inherent in all programs.

1:35 pm – 2:05 pm

Current Practices in Severe Exercise-Induced Hypoxemia and Devices Used for Management

Mary Hart MS RRT AE-C FAARC, San Antonio, TX

Results of a national survey of pulmonary rehabilitation centers will be revealed to describe current practices in patients with severe exercise-induced hypoxemia. The speaker will address devices and strategies used for management during exercise in this clinical disorder. How does your program stack up against those who participated in the survey? Attend this lecture to find out!

Disaster Response: How Can RTs Get Involved?

1:00 pm – 2:25 pm

1:00 pm – 1:40 pm

Respiratory Therapists and Mass Casualty Care: Getting Involved

CDR Lewis Rubinson MD PhD (USPHS), Senior Medical Advisor, Emergency Care Coordination Center, HHS/ASPR/OPEO, Washington DC

Following a mass casualty event, how many times have you sensed that desire to get involved and be able to serve your fellow man? This presentation will review the needs of HHS regarding mass casualty respiratory failure and explain new ways for the RT to get involved. Dr. Rubinson will also highlight expected responsibilities of respiratory therapists serving in these roles?

1:45 pm – 2:25 pm

Critical Care in Disaster Response

CDR Lewis Rubinson MD PhD (USPHS), Senior Medical Advisor, Emergency Care Coordination Center, HHS/ASPR/OPEO

This presentation will cover the role RTs will play in a new critical care team being formed by the NDMS. This presentation will highlight the need for highly skilled RTs and their experience in critical care, as well as the NDMS job descriptions and application process. The NDMS is actively recruiting dozens of RTs to fill slots on these new critical care teams. Attend this presentation if you think you may be interested in volunteering your time.

Sunday, Nov 11

Advances in LTOT Technology

1:00 pm – 2:40 pm

1:00 pm – 1:30 pm

Closed-loop LTOT: A New Era or a Passing Fad?

Stefano Nava MD, Bologna Italy

The presenter will describe the process of integrating pulse oximetry into LTOT dosing to provide automated titration. A review of published data will be presented and discussed.

1:35 pm – 2:05 pm

Oxygen Conserving Delivery Devices: What Have We Learned?

Robert W McCoy RRT FAARC, Apple Valley MN

Oxygen conserving technology has become an integral part of most new ambulatory LTOT devices. This presentation will describe issues with such technology that may contribute to unintended consequences and periods of desaturation. How can the home care RT mitigate such undesirable outcomes? You won't want to miss this presentation.

2:10 pm – 2:40 pm

Keeping It Simple: Challenges in Teaching Newer LTOT Technology to Patients

Louis M Kaufman RRT-NPS AE-C FAARC, Germantown MD

For optimum effectiveness, LTOT users must demonstrate the correct way to use their equipment. This presentation will list the challenges in teaching LTOT users newer technology and strategies for more effective communication.

Pulmonary Diagnostics: Method to Assess Respiratory Resistance

1:00 pm – 3:10 pm

1:00 pm – 1:40 pm

Airway Resistance Measurements Using Body Plethysmography – Gold Standard or Old Standard

Gregg Ruppel MEd RRT RPFT FAARC, St Louis MO

Body plethysmography derived resistance parameters are relatively easy to perform and understand. Like spirometry curves, resistance curves have unique characteristics in obstructive and restrictive lung disease. When does the measurement of resistance add the greatest value in the clinical assessment? You'll have to attend this presentation to find out!

1:45 pm – 2:25 pm

Understanding the Basics of Impulse Oscillometry (IOS)

Matthew J O'Brien MS RRT RPFT, Madison WI

Impulse oscillometry has been around the PFT lab for many years. How can this tool assess respiratory resistance? Attend this presentation and develop a better understanding of the parameters associated with this measurement and how this tool can be best used in the clinical assessment of patients.

2:30 pm – 3:10 pm

Resistance Occlusion (ROCC): How Does this Method Compare to Other Techniques?

David Kaminsky MD, Burlington VT

While a slightly lesser known entity than its diagnostic brotherhood, Resistance by Occlusion is an alternative method that can be used to assess airway resistance. How do the parameters compare to body plethysmography and impulse oscillometry methods? The presenter will answer these and other questions about this emerging technology.

AARC's 28th New Horizons in Respiratory Care Symposium:
The Scientific Basis for Respiratory Care

1:00 pm – 4:25 pm

1:00 pm – 1:30 pm
Science and Evidence: Separating Fact from Fiction
Dean R Hess PhD RRT FAARC, Boston MA
An overview of evidence-based medicine as it applies to respiratory care.

1:35 pm – 2:05 pm
The Scientific Basis for Protocol-Directed Respiratory Care
Jamie Stoller MD FAARC, Cleveland OH
A discussion of the evidence related to protocol-directed respiratory care.

2:10 pm – 2:40 pm
The Scientific Basis for Airway Clearance Techniques
Teresa A Volsko MHHS RRT FAARC, Youngstown OH
A discussion of the evidence related to airway clearance techniques.

2:45 pm – 3:15 pm
The Science Guiding Selection of an Aerosol Delivery Device
Timothy R Myers MBA RRT-NPS, Irving TX
A discussion of the evidence related to selection of an aerosol delivery device.

3:20 pm – 3:50 pm
The Scientific Basis for Post-Operative Respiratory Care
Richard D Branson MSc RRT FAARC, Cincinnati OH
A discussion of the evidence related to prevention and treatment of post-operative respiratory complications.

3:55 pm – 4:25 pm
The Scientific Basis for Oxygen Therapy in the Hospitalized Patient
Chris Blakeman MSc RRT, Cincinnati OH
A discussion of the evidence related to oxygen administration for hospitalized patients.

Sunday, Nov 11

Management Boot Camp: Part II

2:00 pm – 4:15 pm

2:00 pm – 2:30 pm

Developing Relationships with Physicians – The RT Perspective

Jan Thalman MS RRT FAARC, Durham NC

The presenter will provide both her experience as well as what she has learned from management colleagues across the country as to how RT managers and RT staff can and must develop mutually beneficial relationships with medical directors and other physicians.

2:35 pm – 3:05 pm

Developing Relationships with Respiratory Therapists – The Medical Director Perspective

Neil R MacIntyre MD FAARC, Durham NC

The presenter will provide his experiences through a long and successful career as a pulmonologist and medical director with regards to what respiratory therapists need to understand and do to create mutually beneficial relationships with their RT medical director and other physicians.

3:10 pm – 3:40 pm

Productivity and Benchmarking

Bill Dubbs MBA MEd RRT FAARC, Irving TX

The presenter will provide an overview of the value of accurately measuring productivity and how benchmarking is utilized by healthcare organizations and executives. You do not have to be a subscriber to the AARC's Benchmarking Program to find value in this presentation.

3:45 pm – 4:15 pm

Growing Your Leadership Skills

Scott Reistad RRT CPFT FAARC, Colorado Springs CO

This session will be of value to both those new to leadership as well as those desiring to fine-tune their leadership skills. The presenter will not only provide insight on how to increase your leadership skills, but also to provide one with a framework in which to do so. This copy-and-paste model for leadership development is guaranteed to work for anyone looking to improve their leadership skills.

Bronchopulmonary Dysplasia: The Real Story

2:00 pm – 4:15 pm

2:00 pm – 2:30 pm

Diagnosing BPD in 2012: Anything New?

Kathleen M Deakins MSHA RRT-NPS FAARC, Cleveland OH

This presentation will review the physiologic definition of BPD and how it applies today. Has anything really changed in the diagnosis of BPD over the past decade? Has advancement in monitoring techniques provided caregivers improved early warning signs for BPD? Team strategies to better identify BPD will be discussed along with approaches to prevention.

2:35 pm – 3:05 pm

Have New Noninvasive Modalities Reduced the Incidence of BPD?

Jonathan Fanaroff MD, Cleveland OH

Have new noninvasive modalities truly reduced the incidence of chronic lung disease in infancy? Which of the available modalities are most likely to prevent BPD? What new noninvasive strategies are on the horizon? These questions and many more will be unveiled in this presentation.

3:10 pm – 3:40 pm

Long-term Outcomes: The Real Story

Jonathan Fanaroff MD

This presentation will discuss the long-term outcomes of bronchopulmonary dysplasia. What is the role of primary care providers in enhancing long-term outcomes for infants with chronic lung disease? Neurologic, respiratory, and education outcomes through early childhood will be reviewed. The presentation will discuss the various milestones in the resolution of chronic lung disease of infancy.

3:45 pm – 4:15 pm

Crossing into the Pediatric World: Treating BPD from a Pediatric Perspective

Kathleen M Deakins MSHA RRT-NPS FAARC

What happens to infants with BPD when they enter childhood? Are these children at increased risk for asthma, viral illness, or hospitalization? What are the most common reasons for readmission? What about neurodevelopment? How should parents be counseled about what to expect? Do most of these former BPD children have long-term sequelae? These clinically relevant issues will be discussed.

Sleep in Women and Their Children

2:00 pm – 4:15 pm

2:00 pm – 2:30 pm

Sleep in Women: What Is Normal?

Suzanne Bollig RRT RPSGT REEGT FAARC, Hays KS

The speaker will describe normal sleep in women and include the impact of normal female function over a lifetime. This section will address the impact on sleep of the normal menstrual cycle, from menarche to menopause. The speaker will also address the impact of working mothers and their child-rearing responsibilities on sleep. Finally, the impact of aging will be addressed.

2:35 pm – 3:05 pm

Sleep Disorders in Women

Paul Selecky MD FACP FCCP FAASM FAARC, Newport Beach CA

The speaker will address the sleep disorders that can occur in women and some that are unique to women such as during pregnancy and childbirth. Sleep apnea in women will be addressed in contrast to men, as well as the impact of untreated sleep apnea on the outcome of pregnancy and childbirth. Other sleep disorders will be addressed, including movement disorders during sleep and chronic insomnia.

3:10 pm – 3:40 pm

Sleep Disorders in Children

Suzanne Bollig RRT RPSGT REEGT FAARC

Completing the mother-child bond, this topic will focus on normal sleep as children grow and mature as well as the ongoing problem of insufficient sleep in children and teens. The speaker will also address the changes in circadian rhythm with the onset of adolescence as well as parasomnias.

3:45 pm – 4:15 pm

Chronic Sleep Deprivation: All in the Family

Paul Selecky MD FACP FCCP FAASM FAARC

Chronic sleep deprivation is a growing problem in the US and manifests itself early in life, extending throughout the life cycle. The speaker will describe the impact of both acute and chronic sleep deprivation on daily function as well as the impact on health including heart disease, obesity, and the immune response to infection. The impact on work/school performance will also be addressed.

Sunday, Nov 11

Building a Better Foundation for Care and Advocacy

2:10 pm – 4:25 pm

2:10 pm – 2:40 pm

Is Overlapping Asthma and COPD an Orphan Disease?

David Mannino MD, Lexington KY

The presenter will conduct an in-depth discussion of what forms an "orphan disease." Does the overlapping diagnosis of asthma and COPD fall into that category? If so, are the 4-5 million people who fall into this category eligible to participate in asthma or COPD trials? The answers to these and other questions will be discussed. Emphasis will be placed on the irreversible components of bronchiectasis and refractory asthma.

2:45 pm – 3:15 pm

Advances in COPD Research

James Crapo MD, Denver CO

Presenter will provide a status report of the COPDGene study and challenge attendees to think beyond spirometry as the standard for COPD diagnosis. Are there other diagnostic tools we should consider? Do they provide the accuracy of spirometry? These and other questions will be answered in this session.

3:20 pm – 3:50 pm

Seize the Opportunity: Teachable Moments for the COPD Patient During Hospitalization

Byron Thomashow MD, New York City NY

This presentation will examine the role of healthcare providers at the bedside during hospitalization from a COPD exacerbation. The speaker will describe the minimum elements that must be addressed for a successful transition to the home. Is it realistic to begin patient education at the onset of a hospitalization… during an exacerbation, or is there a more appropriate time to begin this intervention? Should RTs wait until discharge? You'll have to attend this presentation to find out!

3:55 pm – 4:25 pm

Getting Active in Advocacy and Research

John Walsh, Miami FL

John Walsh, president of the COPD Foundation, will describe the role of the COPD Foundation in promoting awareness of COPD. He will also detail efforts currently being undertaken to increase funding for critically needed research. Don't miss out on this opportunity to hear directly from this COPD Foundation spokesman.

Critical Care Air Transport Experience

2:30 pm – 3:55 pm

2:30 pm – 3:10 pm

Critical Care Transport Experience – Part I

Sean V Seay MSPH, Wright-Patterson AFB

This lecture will provide the respiratory therapist with a unique "behind-the-scenes" look at the history and background surrounding the USAF CCATT and NDMS. Attendees will also learn about differences in critical care transports that take place between military and peacetime contingencies.

3:15 pm – 3:55 pm

Critical Care Air Transport Experiences – Part II

Sean V Seay MSPH

This interactive presentation will provide a realistic CCAT experience through participation of in-flight simulation. The presentation will engage the audience from packaging the patient, to loading the plane, to simulated clinical patient care in the CCAT flight environment. A fascinating opportunity for those interested in learning more about medical transport and the military.

Competency Development for Mass Casualty Ventilators

2:45 pm – 4:25 pm

2:45 pm – 3:05 pm

Is Your Department Ready? Challenges in the Face of Mass Casualty Ventilator Deployment

Kathy Moss MEd RRT, Columbia MO

This presentation will provide an overview of the specific challenges faced by respiratory therapists in response to mass casualty events. The presentation will allow participants to recognize the challenges associated with the need for mechanical ventilation in the context of mass casualty events and identify methods of preparing respiratory care departments and practitioners for effective deployment of mechanical ventilation.

3:10 pm – 3:40 pm

Moving Past the Barriers: Developing Competencies for Mass Casualty Ventilators

Kathy Moss MEd RRT

This presentation will facilitate exploration of theories and published evidence that underline and influence the implementation of effective preparation activities for mass casualty events. The speaker will describe theoretical perspectives and barriers to ventilator mass casualty competency development, and state realistic expectations for retention of mass casualty preparation.

3:45 pm – 4:25 pm

Making It Happen: Training Strategies for Ensuring Competency

Ronda Bradley MS RRT, St Louis MO

This presentation is designed to equip stakeholders for disaster preparedness. What are the tools needed to ensure clinician preparedness for the development of stockpile ventilators? How does one gain access to these tools and design training strategies to meet the needs of the masses? The presenter will answer all of these questions, but most importantly will share how to implement, deploy and evaluate the effectiveness of training.

Sunday, Nov 11

Open Forums #9 and #10

3:00 pm – 4:55 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

New Adventures in Diagnostics

3:30 pm – 4:10 pm

Lung Clearance Index: Mathematical Manipulation or Clinical Utility?

Timothy Myers MBA RRT-NPS, Irving TX

Early identification of airway dysfunction is imperative. Prevention and methods of monitoring airway disease are important as well. What clinical utilities are available for respiratory therapists? LCI is a measure of lung physiology derived from multiple breath washout tests. Is it effective in showing benefit to diseases of airflow obstruction? This lecture will answer these questions and will describe the usefulness of this measurement in the diagnostic arena.

Continuing Care/Rehab Section Membership Meeting

4:00 pm – 4:30 pm

Debra Koehl MS RRT-NPS AE-C/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Why Won't They Just Do What They're Supposed To? Factors That Contribute to Patient Non-Compliance

4:30 pm – 5:00 pm

Georgianna Sergakis PhD RRT RCP/*Presiding*

Why Won't They Just Do What They're Supposed to Do? Factors That Contribute to Patient Non-Compliance

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

This presentation will address the issue of patient adherence to the established plan of care and explain the difference between adherence and compliance. More importantly, it will provide an overview of factors that contribute to non-compliance and specifically address disease-oriented, treatment-oriented, and patient/provider-oriented variables. Following this presentation, RTs should be able to position themselves for a more critical role in patient education and discharge planning.

Management Section Membership Meeting

4:30 pm – 5:00 pm

Bill Cohagen BA RRT FAARC/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Sleep Section Membership Meeting

4:30 pm – 5:00 pm

Michael W Runge RRT FAARC/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Home Care Section Membership Meeting

4:30 pm – 5:00 pm

Gregg Spratt CRT CPFT/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Diagnostic Section Membership Meeting

4:30 pm – 5:00 pm

Matthew J O'Brien MS RRT-NPS AE-C/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Neonatal-Pediatrics Section Membership Meeting

4:30 pm – 5:00 pm

Cynthia White RRT-NPS FAARC/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Adult Acute Care Section Membership Meeting

4:30 pm – 5:00 pm

Keith Lamb RRT/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

Surface to Air Transport Section Membership Meeting

4:35 pm – 5:05 pm

Steven E Sittig RRT-NPS FAARC/*Presiding*

Section members meet to determine their needs and priorities, as well as how to use AARC resources to accomplish them. All Congress attendees, including section non-members, are invited to attend and to participate.

AARC Congress 2012

Respiratory Care Open Forum

Supported by an unrestricted educational grant from

monaghan™

The Open Forum at AARC Congress is a unique opportunity for attendees to experience the results of scientific studies performed by their colleagues. Abstracts and posters of their work are presented in a symposium format that encourages discussion and interactions among investigators and observers. Indeed, some attendees refer to the Open Forum as the most significant event at the Congress. Respiratory Care journal is proud to present this year's 20 Open Forum symposia. Once again, respiratory care professionals have stepped forward and analyzed the things they do with critical eyes. We encourage you to review all the abstracts in the October issue of Respiratory Care. Come to the Congress and experience an Open Forum symposium!

Saturday, November 10, 12:30 pm – 2:25 pm
Respiratory Care Open Forum #1
Aerosols/Drugs—Part 1

Perioperative Use Of An Anesthesia Ventilator For Aerosolized Vasodilator: The Role Of Respiratory Care—Sherwin Morgan, Chicago IL

Adherence Of Prescribed MDI Bronchodilator Doses By Respiratory Therapists On Mechanically Ventilated Patients—Onesimus Henry, Mobile AL

Probiotic Adjunctive Supplementation In Surgical Critical Care—Roger Reichenbach RRT, Detroit MI

Delivery Of Albuterol By Pressurized Metered-Dose Inhaler And Jet Nebulizer Via Mask With High Flow Nasal Cannula In Place Reduces Aerosol Delivery—Mahmood Alalwan MSc, Atlanta GA

On-Time Availability Of Metered Dose Inhalers: A Quality Project Completed By Respiratory Care And Pharmacy To Ensure Medication Is Available In A Timely Fashion—Amelia Lowell, Phoenix AZ

Medication Compatibility: Implications For Combination Therapy—Christopher Russian MEd, San Marcos TX

Cost-Benefit Analysis Of A Dosimetric Nebulizer Using Circulaire And A Traditional Vixone Nebulizer—Nwakaego Okere MS, Riverdale GA

A Retrospective Look At The Response Of Patients To Inhaled Epoprostenol (Flolan) Nebulized With An Aeroneb Solo As Compared To Nitric Oxide—Tim France, Norfolk VA

Evaluation Of Aerosolized Milrinone Through A Ventilator Breathing Circuit From A Vibrating-Mesh Nebulizer—Michael Luethge, Omaha NE

Efficiency Of Aerosol Delivery Devices In Mechanically Ventilated Patients With Artificial Airways—Arzu Ari PhD CPFT FAARC, Atlanta GA

Comparisons Of The RAM Cannula With High Flow Nasal Cannula (HFNC) On Aerosol Drug Delivery In A Simulated Neonatal Lung Model—Arzu Ari PhD CPFT FAARC, Atlanta GA

Comparison Of Albuterol Delivery Using Two Different Nebulizer Positions During High Frequency Oscillation And Continuous Positive Expiratory Pressure In A Spontaneous Breathing Adult Lung Model—Robert Harwood, Atlanta GA

A Comparison Of Metered Dose Inhaler Drug Delivery And Placement With And Without The Neoflow Sensor—Lisa Tyler MSM, Cherry Hill NJ

Enhanced Aerosol Drug Delivery Via Vibrating Mesh Nebulizer During Non-Invasive Ventilation—Michael McPeck RRT FAARC, Long Beach CA

Meta-Analysis Of The Impact Of Statins On The Mortality And The Exacerbation Rate Of Patients With Chronic Obstructive Pulmonary Disease—Alexandros Mathioudakis, Macclesfield Cheshire United Kingdom

The Effect Of Four Aerosol Delivery Techniques On Aerosol Deposition—Khaled Alqahtani, Mobile AL

Effects Of Bypass Heat-And-Moisture Exchanger On Aerosol Output During Mechanical Ventilation—Andy Doan, Mobile AL

Saturday, November 10, 12:30 pm – 2:25 pm
Respiratory Care Open Forum #2
Education—Part 1

The Demand And Helpful Of Interdisciplinary Learning Training Course For Novice Registered Respiratory Therapist—Chia-Chen Chu MS SRRT FAARC, Taichung Taiwan

Student Performance After Use Of An Oxygen Therapy Computer-Based Learning Module—Kimber Haug BSRT, Youngstown OH

The Impact Of Completing Authentic Tasks On The Development Of Critical Thinking Skills—Nancy Colletti PhD, Kettering OH

The Structure And Implementation Of Respiratory Therapy Orientation For Clinical Staff In Acute Care Hospitals—Kimberly Johnson MS, Columbus OH

Respiratory Care Student Employment Decisions And Experiences With Horizontal Violence Behaviors In The Clinical Setting—Crystal Cosper MEd RRT, Moore OK

Are Pre-Clinical Workshop Days Beneficial In Preparing Respiratory Care Students For Clinical Rotations—Mary Skowronski MEd RRT, Parma OH

COPD Screening By Respiratory Therapy Students At The YMCA Senior Expo—Georgianna Sergakis PhD, Columbus OH

COPD Screening And Health Coaching For Clients At The YMCA Senior Expo—Georgianna Sergakis PhD, Columbus OH

A Pilot Study Of Patient-Centered COPD Education: Effect On Disease Knowledge And Hospital Readmission—Kevin Hall BSRC, Columbus OH

Opinions Of Respiratory Therapists On Their Work Experience As Clinical Preceptors—Susan Rugano, Mobile AL

Determining The Level Of Alcohol Poisoning Awareness Among Undergraduates At The Ohio State University—Crystal Dunlevy EdD, Columbus OH

The Implementation Of An In-School Education Program For Children With Asthma Developed By Respiratory Therapy Students—Kitty Hernlen, Augusta GA

Death Anxiety Among Respiratory Care Students—Kevin Collins MSc RRT RPFT AE-C, San Marcos TX

The Effects Of Insufflation Catheter Size On Pressure And Volume Within A Test Lung When Performing The Apnea Test—Nicholas Henry MS, Round Rock TX

RT-ICU Resource Enhances Multidisciplinary Team Approach And Improves Ventilator Outcomes: A Retrospective Study 2008-2011—Emmanuel Rivera, San Leandro CA

Open Forum Symposia

Hooked On Hookah: An Emerging Social Smoking Trend Among College Students—Mary Martinasek PhD RRT-NPS AE-C, Tampa FL

Information Site For Staff Resource—Donald Pearman, San Diego CA

Saturday, November 10, 3:00 pm – 4:55 pm
Respiratory Care Open Forum #3
Airways Care

Using Oral Care Policy To Reduce Or Prevent Ventilator Associated Pneumonia In The Long Term Acute Care Hospital Setting—Cheri Duncan, Kaufman TX

The Assessment Of Cuff Pressure Measurements Utilizing Three Clinical Techniques—Christopher Russian MEd, San Marcos TX

Modeling Of Respiratory Anatomical Effects On Expiratory Airflow And Acoustics In Human Nasal Airways—Jinxiang Xi PhD, Little Rock AR

Adherence Of Recommended Procedure For Acapella Therapy By Respiratory Therapists—Vincent Mwavu, Mobile AL

Predicting Re-Intubation In Patients Who Self Extubate In The ICU—Kenneth Miller MEd, Bath PA

Bench Study Of The SonarMed AirWave To Detect Fixed Airway Obstructions At Varying Locations Within An Endotracheal Tube—Charline Don RRT, San Diego CA

SonarMed AirWave Ability To Monitor Endotracheal Tube Displacement When Used During Airway Pressure Release Ventilation—Anamaria Booker, San Diego CA

Comparison Between Standard And Empiric Spirotiger Setup In Patients With Cystic Fibrosis—Simone Gambazza MSc, Firenze Italy

The Outcome Of 2,499 Out-Of-Operating Room Endotracheal Intubations At A Large Urban Medical Center—Stacey Milligan, Seattle WA

Effect Of Mean Airway Pressure On Intracuff Endotracheal Tube Cuff Pressure In An Artificial Airway Model—William LeTourneau, Edina MN

Bench Evaluation Of A Novel Tracheostomy Speech Device—John Emberger Jr RRT, Newark DE

Characteristics Of High Flow Oxygen Delivery In Critical Care, A Review Of Patient Data Collection Over A One Year Period In A Tertiary Medical Center—Edward Boroda MHA RRT, Burlington MA

The Safety Of ICU Patients Discharged To The Medical-Surgical Wards With Tracheostomies: The Benefits Of A Comprehensive Tracheostomy Care Protocol—Scott Kopec MD, Worcester MA

Speed Of Moving Oral Endotracheal Tubes Using Various Securing Devices—Daniel Fisher MS RRT, Boston MA

Intubation Success Rate Using Glidescope Video Laryngoscope In Pediatric Critical Care Transport—Stacy Manus, Akron OH

A Retrospective Review Of Tracheostomy Decannulation Practices Among Medical Specialties—Lindsey Kreisher, Durham NC

Biomass Burning During Sugarcane Harvesting Is Marked Harmful For Nasal Mucosa Of Sugarcane Workers And Residents Of Urban Areas That Surround The Burning Fields—Naomi Nakagawa PT MSc PhD, São Paulo Brazil

Evaluation Of The Various Tube Securing Methods To Stabilize An Oral Endotracheal Tube Subjected To A Tug—Daniel Fisher MS RRT, Boston MA

Saturday, November 10, 3:00 pm – 4:55 pm
Respiratory Care Open Forum #4
Diagnostics/Sleep/Pulmonary Rehab

Creation, Implementation And Evaluation Of Secretion Clearance And Bronchodilator Protocol—Peter Saunders, Pasadena MD

The Impact Of A Reminder Phone Call On No-Show Rates Of Patients Scheduled For Pulmonary Function Testing—Bonnie Gehlert, Rolla MO

Development And Implementation Of A Process Improvement Plan For Alpha-1 Antitrypsin Deficiency Targeted Screening—John Rinck MM RRT, Lansing MI

The Results Of An Indoor Air Quality (IAQ) Policy Change On Elevated CO2 Levels In School—Kitty Hernlen, Augusta GA

The Effects Of Abnormal Blood Pressure On Arterial Sampler Filling Times—Aaron Cortes, Columbus OH

Nasal-Pharyngeal Tissue Compliance And Airflow Patten During Tidal Breathing Using Real-Time MRI And Computational Fluid Dynamics—Jinxiang Xi PhD, Little Rock AR

Comparison Of Mean Expired CO2 Measurements Using The Event Inspiration 7i Ventilator Volumetric Capnography vs The Respironics NiCO2 Monitor—Mark Siobal RRT FAARC, San Francisco CA

Accuracy Of Resting Energy Expediture Calculated By A Modification Of The Abbreviated Weir Equation In Mechanically Ventilated Adult ICU Patients—Mark Siobal RRT FAARC, San Francisco CA

Barcode Scanning: Does It Reduce Errors Made During Point Of Care Testing?—Jenni Raake MBA RRT-NPS, Cincinnati OH

Supranormal Pulmonary Function Testing Values In A Military Population—Michael Morris MD, Fort Sam Houston TX

Patient Adherence To Nasal Continuous Positive Airway Pressure—Tim Op't Holt EdD RRT AE-C FAARC, Mobile AL

Effect Of Patient Contact Time On Continuous Positive Airway Pressure (CPAP) Compliance Rates For Patients Diagnosed With Obstructive Sleep Apnea (OSA) —Juli Bolterman BSRC, Lancaster CA

Sleep Patterns Of Young Adults On The Autism Spectrum—Tamara Douglass-Burton MS RRT RPSGT, Towson MD

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Improving Trauma Patient Outcomes Through Additional Pulmonary Hygiene Interventions—Christopher McCormick RRT, Morgantown WV

How Do Respiratory Therapists Discuss Smoking Cessation With Their Patients At The Bedside—Deborah Patten MA, Highland Heights KY

Improving Patient Satisfaction Scores With Notification Of Staff Hand Washing—Robert Pikarsky, Syracuse NY

Effects Of 4-Week Outpatient Pulmonary Rehabilitation On Pulmonary Function And Quality Of Life In Patients With COPD—Yen-Huey Chen, Tao-Yuan Taiwan

Compliance With Pulmonary Rehabilitation Recommendations From The Global Initiative For Chronic Obstructive Lung Disease (GOLD) 2011—Terry Kisner, Morgantown WV

Effective Strategies To Monitor And Manage Post-Operative Sleep Apnea—John Sabo MS RRT RN, Houston TX

Sunday, November 11, 10:00 am – 11:55 am
Respiratory Care Open Forum #5
Ventilation/Ventilators—Part 1

Larger Neck And Waist Circumference Were Correlated With Postextubaiton Respiratory Failure In Patients Received Prolonged Mechanical Ventilation—Pei-Ya Li, Chiayi Taiwan

Can Anyone Tell Me The Oscillatory Trough Pressure (OTP)? —Jeffrey Wright, West Valley City UT

Establishing Goals And Routine Reporting For Extubation Following Successful Spontaneous Breathing Trials Results In Increased Physician Utilization Of SBT—Michael Bocci, Houston TX

Comparison Of Static Compliance On Four Different Ventilators—Jonathan Jacobs, Springfield MO

Compliance Of Paired Sedation Awakening Trials And Spontaneous Breathing Trials: The Effects On Measurable Outcomes—Dawn Turner, Asheville NC

The Prediction Of Ventilator Weaning Outcome Improved By Artificial Neural Network In Medical Intensive Care Unit—Hung-Ju Kuo, Taipei Taiwan

Effect Of Mechanical Deadspace On Oxygen Consumption And Energy Expenditure When Using Indirect Calorimetry—Akio Kinoshita, Urayasu Japan

Use Of Airway Pressure Release Ventilation (APRV) As A Rescue Mode From High Frequency Oscillatory Ventilation (HFOV) —David Madden, Baltimore MD

A Case Study: Application Of High Frequency Percussive Ventilation (HFPV) During Bi-Caval Dual Lumen Venovenous Extracorporeal Membrane Oxygenation (VV-ECMO) —Cheryl Dominick, Philadelphia PA

The Independent Effect Of Three Inline Suction Adapters And Lung Compliance Change On Amplitude And Delivered Tidal Volume During High Frequency Oscillatory Ventilation In An Adult Patient With ARDS: Bench Model—Shreya Thacker MA, Atlanta GA

Development Of A Reliable Ventilator Methodology To Display Neonatal Pressure Volume Loops Using A Simulated Lung Model—Allan Prost, Calgary Alberta Canada

The Comparison Between Unplanned Extubation And Planned Extubation: The Prognosis And The Predictor—Chin-Ming Chen, Tainan City Taiwan

Cognitive Load And Time Requirement Of Initial Ventilator Set-Up—Susan Gole, Cleveland OH

A Novel Approach To Initiating Neonatal High Frequency Ventilation In Transport: Estimating Amplitude And Interpreting Settings—Robert Rohde Jr, Fort Collins CO

Effects Of Hamilton G5 Flow Sensor On Aerosol Delivery—Michael O'Connor, Springfield MO

Sunday, November 11, 10:00 am – 11:55 am
Respiratory Care Open Forum #6
Neonatal/Pediatric—Part 1

Evaluation Of Role Of Tubing Compensation During PRVC In An Infant Lung Model On The Servo-i Ventilator—Shannon Alten, Cincinnati OH

Initial FiO2 Requirements For Preterm Infants Receiving Surfactant In The Delivery Room vs. Preterm Infants That Did Not Receive Surfactant In The Delivery Room—Matthew Trojanowski, Abingdon MD

Does The RAM Cannula Deliver The Set CPAP Pressure With Bubble CPAP? A Bench Test—Matt McNally, Lebanon NH

Pediatric Early Warning System And Aware Team—Kathy Kammeraad RRT, Grand Rapids MI

Development And Implementation Of Ventilator Management Protocols For The Neonatal Intensive Care Unit—Shari Toomey, Hardy VA

Successful Use Of A Prolonged Inspiratory Time On The Bunnell Life Pulse HFJV In Treating Pneumonia Refractory To Conventional And HFOV Ventilation In A NICU Patient—Kimberly Barner, Allentown PA

The Implementation Of Neonatal Bubble CPAP: A Model For Clinical Change—Kevin Johnson, Santa Barbara CA

A Bench Evaluation Of Tidal Volume Delivery Through Various Nasal Interfaces Using Non-Invasive Percussive High Nasal CPAP—Rick Carter, Salt Lake City UT

Functional Residual Capacity Of The Neonatal Intensive Care Unit Graduates In One Medical Center At Southern Taiwan—Hsiu-Lin Chen, Kaohsiung Taiwan

Non-Invasive Positive Pressure Ventilation Collaborative Care Standard For Pediatric Patients—Patricia Achuff MBA, Philadelphia PA

Retrospective Review Of Airway Pressure Release Ventilation In Neonates—Cathy Bardua BHS, Cincinnati OH

Implementation Of A Newly Developed Clinical Guideline Use Of High Flow Nasal Cannula Outside The ICU—Lisa Tyler MSM, Cherry Hill NJ

Utilization Of iNO When Using A Novel Ventilator Circuit Connector Under Simulated Neonatal Mechanical Ventilation Conditions: An In Vitro Study—Jan Mazela MD, Poznan Poland

Non-Invasive Ventilation Using The RAM Nasal Cannula With The GE Engstrom Carestation—Kathleen Deakins MSHA RRT-NPS FAARC, Cleveland OH

Open Forum Symposia

The RAM Cannula Can Help To Reduce Facial Tissue And Nasal Septal Erosion For The Neonatal Patient Requiring NIMV And nCPAP—Elena Lennon, Manhasset NY

High Frequency Oscillatory Ventilator (HFOV) Tidal Volume (VT) Varies With Lung Impedance (Z) – But Where Does That VT Go? —Robert Gillette MD MA, San Antonio TX

Noninvasive Ventilation In Neonates Using The RAM Cannula—Lisa Pappas, Salt Lake City UT

Evaluation Of Placement Of Nitric Oxide Sampling Line In Infant Ventilator Circuit During Simultaneous Delivery With A Continuous Nebulizer—Rick Amato, Cincinnati OH

Does Adequate Pressure Propagation Occur With Nasal Cannula Intermittent Mandatory Ventilation (NCIMV)? —Carter Tong RRT, Loma Linda CA

Sunday, November 11, 12:30 – 2:25 pm
Respiratory Care Open Forum #7
Ventilation/Ventilators—Part 2

Ventilation Liberation In A Oncological Cancer Center; A Quality Improvement Initiative—Clarence Finch MBA MHA RRT, Houston TX

Evaluation Of An Uninterruptable Power Supply System To Improve Patient Safety During High Frequency Oscillatory Ventilation—Justin Hotz, Simi Valley CA

Effects Of Adding A Pediatric Omni-Flex Connector On Delta Pressure And Mean Airway Pressure On The SensorMedics 3100A—Jared Rice BSRT, Cleveland OH

Predicting Extubation Success After Total Artificial Heart Placement: A Comparison Of Two Weaning Assessment Tools—Amelia Lowell RRT, Mesa AZ

A Comparison Of Leak Compensation In Acute Care Ventilators During Invasive Ventilation: A Lung Model Study—Jun Oto MD PhD, Boston MA

Evaluation Of Heliox Therapy Delivered Using The Respironics Vision Ventilatory Support System—Mark Siobal RRT FAARC, San Francisco CA

Comparison Of Calculated And Measured Tracheal Pressures During Automatic Tube Compensation On The Draeger XL And The eVent Medical Inspiration 7i Ventilators—Mark Siobal RRT FAARC, San Francisco CA

Comparison Of Heliox Cylinder Duration Between The E-Vent Inspiration 7-I Ventilator And The Viasys AVEA Ventilator—Mark Siobal RRT FAARC, San Francisco CA

An Evaluation Of Inspiratory Pressure Attenuation In An ARDS Lung Model With Three Different ETT Sizes Using High Frequency Percussive Ventilation—David Grooms MSHS RRT, Norfolk VA

Do Changes In Resistance And Compliance Effect The Amount Of Nitric Oxide Delivered Via The Vdr-4 Ventilator—James Deckman, Philadelphia PA

Predictors Of Functional Decline In ALS Patients Under NIV—Anna Braga MSc, Lisbon Portugal

Ventilator Function And Effective Alarms During Speaking Valve Use In A Critical Care Setting: A Bench Study—Kathy Grilliot, Springfield VA

The Use Of Invasive CPAP For Hypoxemic Respiratory Failure—Dexter Burns, Columbia MO

The Effect Of Pause Time On Double-Triggering In A Simulated Asynchronous Lung Model During Lung Protective Ventilation—Carl Hinkson RRT FAARC, Seattle WA

Accuracy Of Height Estimation By Pre Hospital Care Providers—Lauren Gilseth BRC, Rochester MN

Sunday, November 11, 12:30 – 2:25 pm
Respiratory Care Open Forum #8
Case Reports

Efficacy Of Intrapulmonary Percussive Ventilation (IPV) On Traumatic Brain Injury Patients—Sabrina Cho, Baltimore MD

Using High Flow Nasal Cannula In Conjunction With The Passy Muir Valve To Wean From Ventilator —Peter Saunders, Baltimore MD

Changing Tracheostomy Tube Material And Utilizing Silicone Dressings Healed This Stoma: A Case Study—Linda Dean RRT, Rixeyville VA

Use Of Airway Clearance To Treat Chronic Atelectasis In A Ventilator Dependent Infant With Chronic Lung Disease: A Case Report—Stephanie Bailes, Akron OH

Use Of NAVA To Relieve Asynchrony Associated With Severe Tracheobronchomalacia A Case Report—Kristen Hood RRT-NPS, Dallas TX

Independent Lung Ventilation Using Mid-Frequency Ventilation In Single Lung Pulmonary Hemorrhage Of Unknown Origin—Rory Mullin RRT, Cleveland OH

The Use Of Variable Trigger Sensitivity On A Non-Invasive Ventilated Pediatric Patient: A Case Report—Mike Robertson MHA, Columbus OH

Utilizing Modern Technology To Locate An Aspirated Foreign Object—Janice Ellis, Newark DE

The Effect Of APRV Ventilation On Intracerebral Pressure And Cerebral Hemodynamics: A Case Report—Stephen Sibole RRT, Hampton VA

Aggressive Management Of H1N1 In A Pregnant Patient—Andrea Boersen RRT, Grand Rapids MI

Determining Supplemental Oxygen Requirements For Activities Of Daily Living In An Adolescent Patient—Kim Robbins, Little Rock AR

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The Use Of Neurally Adjusted Ventilatory Assist (NAVA), Heliox And Continuous Albuterol In Severe Bronchospasm Due To COPD Exacerbation: A Case Report—Patrick Williams, Lebanon NH

Perforation Of The Right Tympanic Membrane Seen In A Patient With Duchenne Muscular Dystrophy Using A Mechanical Assist Cough Device And Non-Invasive Ventilation—Scott Gee, Little Rock AR

Symptomatic Congenital Pulmonary Airway Malformation: A Case Study—Amy Gibbs, Little Rock AR

Plastic Bronchitis In A Pediatric Patient Secondary To Fontan Palliation—Trent Tappan, Little Rock AR

Continuous High Frequency Oscillation In The Presence Of A Large Air Leak And Airway Clot—Kevin Bullock, Boston MA

Treatment Of Severe Obstructive Apnea And Micrognathia With Placement Of An Internal Jaw In A Newborn—Leane Soorikian RRT-NPS, Philadelphia PA

Sunday, November 11, 3:00 pm – 4:55 pm
Respiratory Care Open Forum #9
Home Care/O2 Therapy

High Flow Oxygen Therapy In Early Palliative Care—Julien Legodec, Toulon France

Education And Training Improve Physician Compliance In The Ordering Of Oxygen—Michael Bocci, Houston TX

Effect Of Pop-Off Valve On Flow And Pressure In Heated High Flow Nasal Cannula Delivery In Pediatrics—Gary Lowe MEd RRT-NPS RPFT, Little Rock AR

Comparative Study Of Circuit Pressures And CPAP Effect For Two High Flow Nasal Cannula Devices—Gary Lowe MEd RRT-NPS RPFT, Little Rock AR

Fraction Of Inspired Oxygen During Inadvertent Low Flow Bag Mask Ventilation—Sara Green, St Paul MN

A Comparison Of Oxygen Mask $FI0_2$ Concentrations Using A Range Of Tidal Volumes And Inspiratory Flowrates—Joshua Gonzales MHA, San Marcos TX

Performance Comparison Of Two Portable Oxygen Concentrators—David Wheeler RRT-NPS, Cleveland OH

Bacterial Growth On Size E Oxygen Cylinders In Three Areas Of A Healthcare Facility—Christopher Phang, Mobile AL

The Effectiveness Of The Misty Ox High FiO2-High Flow Nebulizer—Keith Hirst MS, Chicago IL

Evaluation Of Five Chemical Oxygen Generators—Thomas Blakeman RRT, Cincinnati OH

Comparison Of Oxygen Delivery Devices For Reversal Of Altitude Induced Hypoxia In Normal Subjects—Thomas Blakeman RRT, Cincinnati OH

Augmented Ventilation To Improve Activities Of Daily Living-A Case Study—Kimberly Wiles BSRC, Ford City PA

Dyspnea Scores And Activities Of Daily Living Capability As Predictors Of Rehospitalization Rates In A 30 Day Home Respiratory Care Program—Brian Carlin MD FAARC, Ingomar PA

Patient-Physician Appointments Following Hospitalization For Patients Requiring Supplemental Oxygen Therapy: Effect On 30 Day Rehospitalization Rates—Brian Carlin MD FAARC, Ingomar PA

Sunday, November 11, 3:00 pm – 4:55 pm
Respiratory Care Open Forum #10
Asthma/Pulmonary Disease

Integral Role Of Hospital Based Respiratory Therapists In The Education Of Inpatients With A COPD Diagnosis—Amy Wise, Lincoln NE

Vitamin D3 And The Severity Of Inflammation Due To Asthma—Brittney Supp, Wells NV

Use Of Asthma Medications And Peak Flow Meters Prior To Emergency Department Visits, 2009 - 2011—Anna Pau, Waipahu HI

Promoting Physical Activity For Children With Moderate Persistent Asthma Can Reduce Asthmatic Symptoms And Obesity—Michael Haines, Rancho Cucamonga CA

Individualized Self-Management Action Plan Using A Stepwise Approach To Airway Clearance Techniques And Home Spirometry Monitoring In Cystic Fibrosis. Step-Up To Better Breathing (SUBB) —Michael Cantine BSAST, Morristown NJ

Asthma Management In Millenial College Students: Attitudes And Perceptions Of Resources—Georgianna Sergakis PhD, Columbus OH

An Evaluation Of The Peak Performance USA Asthma Education Program—Kitty Hernlen, Augusta GA

Mast Cell Stabilizing Activity Of Ethanolic Extract Of Piper Longum Linn—Gajendra Choudhary MPharm PhD, Indore Madhya Pradesh India

Methods For Evaluating The Pulmonary Effects Of Swimming In Chlorinated Water—Michael Davis RRT, Richmond VA

Imbalance Of Th17/Treg Cells In Mice With Chronic Cigarette Smoke Exposure—Dr. Huaying Wang, Ningbo Zhejiang China

Asthma Class Intervention For Families Of Children Hospitalized With Asthma—Helen Murphy RRT AE-C, Kansas City MO

Improved Clinical, Health, And Financial Outcomes From A Regional Asthma Disease Management Program—Melinda Shuler BSBA, Asheville NC

Therapist Driven Protocols Improve Patient Outcomes—Cindy Sparkman, Salt Lake City UT

The Effect Of Completion Of An Outpatient Pulmonary Rehabilitation Program Upon The Rate Of Hospital Readmission—Mary Schneeberger, Mayfield Heights OH

Use Of Routine Screening Tools For Early Identification Of Chronic Obstructive Pulmonary Disease In Primary Care Practices: A Randomized Cluster Design Clinical Trial—Barbara Yawn, Rochester MN

Monday, November 12, 9:30 – 11:25 am
Respiratory Care Open Forum #11
Monitoring/Equipment—Part 1

Flexible Fiberoptic Bronchoscopy: Ventilation Monitoring Using Integrated Pulmonary Index Versus Standard Monitoring Procedures—Stephanie Herrnreiter MS RRT-NPS, Chicago IL

Open Forum Symposia

Comparative Respirometer Study For Volumetric Accuracy Across A Physiologic Range Of Flow Rates—Kevin Crowley, Portland ME

Shelf Life And Gas Concentration Stability Of Supersaturated Dissolved Oxygen Solutions At Reduced Temperature—Daniel Grady MEd, Asheville NC

Measurement Of Blood Gas Changes And Arteriovenous Oxygen Content Difference Following Injection Of Cold Supersaturated Dissolved Oxygen Solution In Vitro—Daniel Grady MEd, Asheville NC

Nitric Oxide Delivery In MRI Using An Adapted INOmax DSIR System—Donna Parker, Aurora CO

Evaluation Of Manual Ventilation Using The Ispira Pediatric And Adult Pulmonary Resuscitation Device—Kathleen Deakins MSHA RRT-NPS FAARC, Cleveland OH

Comparison Of Gas Consumption Of The Ispira Emergency Resuscitation Device Versus The Self-Inflating Bag During Resuscitation—Kathleen Deakins MSHA RRT-NPS FAARC, Cleveland OH

Evaluation Of Three Edi Catheter Sizes And Time To Insertion In Adult Mechanically Ventilated Patients—Richard Stairhime III, Charlottesville VA

Effect Of Four Different T Low Settings On Four Different EtCO2 Monitors—John Newhart RRT, San Diego CA

A Case Of Derecruitment And Recruitment Observed With Electrical Impedance Tomography—John Emberger Jr RRT, Newark DE

Comparison Of Predicted And Measured Carbon Dioxide Production For Monitoring Dead Space Fraction During Mechanical Ventilation—Carla Wollens RRT, Cleveland OH

Evaluation Of Two Commercially-Available Heated Humidifiers For T-Piece Resuscitation In The Delivery Room—Chad Weagraff BSRC, Mentor OH

Monday, November 12, 9:30 – 11:25 am
Respiratory Care Open Forum #12
Education—Part 2

Educational Inventions To Improve Clinician Documentation—Kenneth Miller MEd, Bath PA

Clinical Simulation Laboratories: The Disconnect Between Their Application In Academic And Continuing Education Environments—Shane Keene DHSc MBA, Telford TN

A Survey Of Research Roles Among Respiratory Therapists—Richard Rice RRT MEd, Cleveland OH

Implementation And Evaluation Of A Volumetric Diffusive Respirator Education Program—Patricia Achuff MBA, Philadelphia PA

Respiratory Program Director Leadership Is Imperative For Successful Program Outcomes. Or Is It? —Nancy Weissman PhD, Palm Beach Gardens FL

Improving The Online Orientation Documentation Process—Elsie Collado-Koman RRT MBA-HCM, San Diego CA

Assessing Comfort Levels In Precepting New Hires—Elsie Collado-Koman RRT MBA-HCM, San Diego CA

Educational Intervention To Improve MDI And DPI Proficiency Among Respiratory Therapists—Angela Austin RRT, Clarkridge AR

What's In Your Educational Portfolio? An Implementation Of Continuing Professional Development Model—Kimberly Heimburg, Ann Arbor MI

Teaching Health Care Profession Students With Interactive Virtual Medical Laboratories In Second Life—Ijaz Ahmed MD RRT, Galveston TX

Asthma Education For Children In A Rural Setting: Garnering Support And Participation From Area Schools—Brenda Barger-Saunders RRT, Monett MO

Establishing The Effectiveness Of Teaching BMV To Entry Level RT Students: A Comparison Of Traditional And Simulation Enhanced Training Methodology—Madhuragauri Shevade MS, Chicago IL

The Use Of A Video Learning Module For Oxygen Therapy Instruction—Jeanette Rivera BSRC, Youngstown OH

Respiratory Arrest Related Deaths Have Decreased Drastically Since The Implementation Of The Advanced Resuscitation Training (ART) Program—Trista Kallis, LaJolla CA

Advanced Respiratory Care Practitioner Initiative—Lisa Johnson MS, Stony Brook NY

A Career Advancement Program Can Increase Professional Growth And Development In RCPs—Ginger Weido RRT-NPS, Lilburn GA

Advanced Cardiac Life Support: 12 Years Of Outcomes Associated With A 3 Credit Hour Course In A Respiratory Care Educational Curriculum—Kathy Moss MEd, Columbia MO

Monday, November 12, 12:30 pm – 2:25 pm
Respiratory Care Open Forum #13
Management—Part 1

Workload Projection Tool; Matching Staffing To Workload For Smart Productivity—Christopher Kircher MHA, Baltimore MD

Improving Billing Practices Through A Department Wide Goal Initiative—Joyce Baker MBA, Aurora CO

Successful Respiratory Intubation Program For Community Hospitals—Travis Collins MS, Fort Thomas KY

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Why Therapists Do Not Precept—Donna Murphy, Lakeside CA

How Increasing The Number Of Procedure Capture Per Patient Can Help Determine Shift Staffing Levels—Ernest Jones, San Diego CA

The Development Of A Respiratory Supplies Indexing System To Improve Retrieval Time—David Blalock CRT, Allentown PA

The Effect Of A Treatment Frequency Protocol On Appropriate Utilization Of Aerosol Therapy—Rebecca Vidrine RRT MHA, Marrero LA

Risk Assessment Of Non-ICU Patients Receiving Noninvasive Ventilation, CPAP, Or With Unassisted Tracheostomy Breathing—Jessica Grady, Durham NC

Process Improvement Initiative Has Significant Impact On Reducing The Number Of Unreconciled Respiratory Therapy Medications In The ICU—Laura Withers MBA RRT, Houston TX

Total Patient Care: Re-Engineering For Quality Phase I—Rikki Bruinsma, Jacksonville FL

The Ventilator Management Initiative: Reducing Costs And Length Of Stay In Mechanical Ventilator Patients—John Sabo MS RN RRT, Houston TX

Interruption During Shift Report: Impact On Patient Care—Deborah Maglionico, Akron OH

Moral Distress In Respiratory Therapists And The Relationship Between Job Satisfaction And Job Attrition—Kimberly Clark EdD, Hickory NC

A State-Wide Survey Of Patient Safety Issues And Staffing Levels In Hospital-Based Respiratory Care Departments—Daniel Grady MEd, Asheville NC

Validity Of Comparative Data For Respiratory Care Services Provided By A Proprietary Consulting Company—Garry Dukes, Concord NC

Monday, November 12, 12:30 pm – 2:25 pm
Respiratory Care Open Forum #14
Aerosols/Drugs—Part 2

Influence Of Breathing Patterns, Flow Rate And Face Mask On Aerosol Delivery To Simulated Spontaneously Breathing Infants And Pediatrics—Hui-Ling Lin MSc RRT RN, Taoyuan Taiwan

Performance Of Reused-Pasteurized Disposable Nebulizer—Hui-Ling Lin MSc RRT RN, Taoyuan Taiwan

Time And Efficiency Of Aerosol Delivery With Continuous vs Intermittent Inspiratory And Expiratory Pneumatic Modes During CMV—Hui-Ling Lin MSc RRT RN, Taoyuan Taiwan

Randomized Double-Blind Monocentric Trial On Tolerability, Acceptability And Efficacy Of Two Formulations Of Inhaled 7% Hypertonic Saline With And Without Hyaluronic Acid In Reducing Airways Inflammation In Patients With Cystic Fibrosis Preliminary Results—Clara Ceruti, Milano Italy

The Effect Of Nebulizer Type And Mask Design On Aerosol Delivery During Noninvasive Positive Pressure Ventilation Of An Adult Lung Model—Maher AlQuaimi MSc, Dammam Saudi Arabia

Iloprost Drug Delivery During Infant Mechanical Ventilation: Influence Of Nebulizer Position During Conventional And High Frequency Ventilation—Rob DiBlasi RRT-NPS FAARC, Seattle WA

The Effect Of Source Gas Flow On Treatment Times For Small Volume Nebulizers—John Bennett, Cleveland OH

Comparison Of Aerosol Delivery Using The Aerogen Micropump And Jet Nebulizer In A Closed-System Ventilator Circuit—Kimberly Farney, Columbus OH

Pooled Data Analysis Of The Impact Of Tiotropium Handihaler On The Mortality Of Patients With Chronic Obstructive Pulmonary Disease—Alexandros Mathioudakis, Macclesfield Cheshire United Kingdom

In-Vitro Comparison Of Aerosol Drug Delivery In Pediatrics Using Pressurized Metered Dose Inhaler, Jet Nebulizer, And Vibrating Mesh Nebulizer With Ambu Bag—Huriah Al Sultan, Atlanta GA

Lung Deposition Of 99mtc-Salbutamol From A Pressurised Metered Dose Inhaler And Valved Holding Chamber, Used With Facemask Or Mouthpiece In Children With Stable Asthma: A Pilot Study—Sunalene Devadason PhD, Perth WA Australia

Pulmonary Radioaerosol Deposition Using Mesh And Jet Nebulizers In Healthy Normals During Noninvasive Ventilation—James Fink PhD RRT FAARC, San Francisco CA

A Comparison Of Aerosol Drug Delivery And Placement With And Without The Neoflow Sensor—Lisa Tyler MSM, Cherry Hill NJ

Bronchodilator Delivery During Simulated Noninvasive Ventilation Of A Pediatric Asthmatic—Cynthia White, Cincinnati OH

Growth Of Nasal-Laryngeal Airways In Children And Their Implications In Breathing And Inhaled Aerosol Dynamics—Jinxiang Xi PhD, Little Rock AR

Effects Of Mild-Moderate Chronic Obstructive Pulmonary Disease And The Impact Of Treatment With Tiotropium Bromide—Richard Casaburi PhD MD, Torrance CA

Triage Priority Affects Time To Initial Treatment For Pediatric Asthma Patients Receiving Continuous Albuterol In An Academic ED—Andrew Miller, Durham NC

Monday, November 12, 3:00 pm – 4:55 pm
Respiratory Care Open Forum #15
Monitoring/Equipment—Part 2

Perioperative Transport And Monitoring Of The Patient On Inhaled Nitric Oxide—Sherwin Morgan, Chicago IL

Ultrasound Guided Arterial Cannulation In Continuous Flow Ventricular Assist Devices—Julie Colquist, Tempe AZ

Correlations Between Changes In Ambient Oxygen Percentage And Dissolved Oxygen Concentration During Solvation And Solution Supersaturation Using A Novel Hyperbaric Tonometer—Daniel Grady MEd, Asheville NC

Stratification Of Supersaturated Dissolved Oxygen Solutions With Depth And Temperature Using A Novel Hyperbaric Tonometer—Daniel Grady MEd, Asheville NC

Performance Of Heat And Moisture Exchangers And Other Humidifying Devices For Tracheostomized Patients With Spontaneous Breathing: A Bench Study—Yusuke Chikata, Tokushima Japan

Reliability Of Nasal Canula Sampling To Detect EtCO2 In The Presence Of CPAP—Anamaria Booker, San Diego CA

The Effects Of Stethoscope Price And Chest Piece Type On Sound Transmission—Tadashia Cooper, Birmingham AL

Open Forum Symposia

A Comparison Of Oral vs Bite Block Inspired Oxygen Concentration During Flexible Bronchoscopy In A Spontaneous Breathing Lung Model—Gagan Singh, Chicago IL

Electrical Impedance Tomography Used To Monitor Regional Ventilation Differences Of Mechanical And Spontaneous Breaths In An ARDS Case—John Emberger Jr RRT, Newark DE

Evaluation Of The Effects Of In-Line Intrapulmonary Percussive Ventilation On Delivered Inhaled Nitric Oxide During Mechanical Ventilation—Nancy Johnson, Medina OH

Breath-By-Breath Update Of Pulmonary Dead Space Fraction Measurement During Acute Lung Injury—Lara Brewer PhD, Salt Lake City UT

Alveolar Dead Space Ratio Predicts End-Tidal Arterial CO2 Gradient—Lara Brewer PhD Salt Lake City UT

Monday, November 12, 3:00 pm – 4:55 pm
Respiratory Care Open Forum #16
Neonatal/Pediatric—Part 2

Evaluation Of Airway Pressure And Tolerance Of The Passy Muir Valve In Pediatric Patients With Tracheostomy—Carolyn McHendry BSHS, Independence KY

Standardized Oxygen Weaning Challenge In Neonatal Intensive Care Unit—Hratch Kayichian, Los Angeles CA

Reducing Unplanned Extubations With Consistency And Collaboration—Matthew Pavlichko RRT-NPS BScHCL, Myerstown PA

Duration Of Mechanical Ventilation And Deadspace Fraction In Infants With Congenital Diaphragmatic Hernia Following ECMO—Erin Libbey, Boston MA

A Comparison Of Positive Pressure Therapy And Conventional Chest Physiotherapy For The Prevention And Treatment Of Post-Operative Atelectasis In Children After Cardiac Surgery—Tina Pitt MPS, Memphis TN

Survival And Improvement Of Physiologic Dead-Space During Ecmo In Children With Congenital Diaphragmatic Hernia—Craig Smallwood, Boston MA

Lack Of Correlation Between Act Values And Heparin Levels During ECMO—Lee Williford III, Durham NC

Pressure And Ventilation Effects Of Noninvasive Respiratory Support Devices In A Spontaneously Breathing Lung Model—Dave Crotwell RRT-NPS FAARC, Seattle WA

Evaluation Of Pressure Delivery Using The Philips Respironics NeoPAP In A Spontaneously Breathing Neonatal Lung Model—Dave Crotwell RRT-NPS FAARC, Seattle WA

Ventilator Displayed Tidal Volume May Not Accurately Reflect Delivered Tidal Volume In Pressure Limited Modes In Neonates—Tony Diez RRT, Durham NC

The Retrospective Review Of The Response To APRV In Twenty Six PICU Patients With Respiratory Failure Before And After The Implementation Of APRV—Tracey Roberts RRT-NPS, Palo Alto CA

Use Of High Frequency Percussive Nasal CPAP During Neonatal Transport—Kevin Crezee, Salt Lake City UT

Use Of A New Nasal Cannula To Deliver Nasal Ventilation To NICU Patients—Dolia Horton, Antioch CA

Heliox Delivered Via High Frequency Jet Ventilator Augments Carbon Dioxide Removal In An Extremely Preterm Infant—Dolia Horton, Antioch CA

Does The RAM Cannula Reduce The Need For Intermittent Intervention To Provide CPAP To The Premature Infant? —Matt McNally, Lebanon NH

A Bench Evaluation Of Minute Volume Delivery Through Intrapulmonary Percussive Ventilation Used In Conjunction With The Draeger Evita—Christopher Benitez, Salt Lake City UT

Profile Of Accidental Extubations In A 96 Bed Level III NICU—Richard Williams, St Petersburg FL

Evaluation Of Interventions To Treat And Prevent Pressure Ulcers Associated With Mask Interfaces During Pediatric Non-Invasive Ventilation—Cynthia White, Cincinnati OH

VAP Prophylaxis Implementation In A Large Pediatric Center—David Heitz, Atlanta GA

Compatibility Of A Novel Aerosol Delivery System With Three Neonatal Ventilators: VN500, Servo-i And AVEA—Jan Mazela MD, Poznan Poland

Bench Comparison Of Three Suction Regulators In The Neonatal Population—Rebekah Robinette, Cincinnati OH

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AARC Congress 2012 is approved for all the credit hours you need to maintain your state license, more than 24 hours.

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Tuesday, November 13, 9:30 – 11:25 am
Respiratory Care Open Forum #17
Management—Part 2

Cost Analysis Of Cool Mist Utilization In Patients Following Upper Airway Surgery—Michelle Herrera, Little Rock AR

Lessons Learned During The Implementation Of A Shared Governance Model In A Respiratory Therapy Department—Dana Stauffer MS RRT-NPS, Hershey PA

Improving Charge Capture, Productivity Tracking And Staff Satisfaction With Charge On Documentation—Victoria Roelker, Cincinnati OH

Transition Management For Respiratory Care Departments—Matthew Trojanowski, Abingdon MD

Precipitate Formation Significantly Increased Cost Of High-Level Disinfection—Pam Leisenring, Little Rock AR

Leading Change: One Department's Experience In Creating A New Workflow-Paradigm—William Hissner Jr, Hershey PA

Reduction In Denied Payments With The Initiation Of Paperless Documentation System Tied To Billing—John Emberger Jr RRT, Newark DE

Decrease Inhaled Nitric Oxide Utilization At A Children's Hospital From A Drug Use Evaluation And Guideline Implementation—Donna Parker, Aurora CO

Differences In The Perception Of Respiratory Care Staffing Using Patient vs Procedure Driven Metrics—Jan Phillips-Clar, San Diego CA

California Managers Perception Of Reasons For Being Short Staffed—Jan Phillips-Clar, San Diego CA

Utilizing Quality Improvement And Performance Management To Raise The Bar For Increasing The Compliance Of Scanning Barcodes For Medications—Brandy Seger MS, Cleves OH

Leveraging The Electronic Medical Record To Strategically Engage The Health Care Team For Children's Asthma Care Core Measure Compliance—Lisa Wright, Lexington KY

Lean Approach To Address Workload Surges—Patty Silver MEd, St Louis MO

The Pulmonary Initiative – A Model For Reducing Length Of Stay And Reducing Cost/Case In COPD Patients—Joy Hargett, Houston TX

A One Year Review Of Respiratory Care Support For An Academic Medical Center RRT Program—Sarah Molchan, Durham NC

Tuesday, November 13, 9:30 – 11:25 am
Respiratory Care Open Forum #18
Neonatal/Pediatric—Part 3

Evaluation Of The Neo-Tee T-Piece Infant Resuscitator—Carl Hinkson RRT FAARC, Seattle WA

Implementation Of The Neotech RAM Cannula In The Pediatric Intensive Care Unit—Shari Toomey, Hardy VA

Developing, Implementing, And Assessing Airway Pressure Release Ventilation Guidelines In The Pediatric Intensive Care Unit—Tammy Schultz MBA RRT, Austin MN

Clinical Outcomes Of Pediatric Patients Treated With Heated Highflow Nasal Cannula On The Pediatric Ward—Evan Summers RRT-NPS, Oakland CA

Flow Variations During Free-Flow Oxygen Delivery Using The T-Piece Resuscitator—John Gallagher MPH, Cleveland OH

Correlation Between Adherence To A Ventilator Weaning Protocol And Successful Extubations In An Intensive Care—James Gibson, Philadelphia PA

Peak Pressures Measured At The Distal Tip Of Pediatric Endotracheal Tubes During An Intrapulmonary Percussive Ventilation Cycle: A Bench Test—Zachary Quinby, Aurora CO

Can High Flow Nasal Cannula Be Driven By A CPAP Machine? Analysis Of Pressure As Related To Flow Using Four Types Of Nasal Cannulas—Lisa Tyler MSM, Cherry Hill NJ

A Bench Evaluation Of Tidal Volume Delivery Through Various Nasal Interfaces Using A Neonatal Airway And Infant Model—Kevin Crezee, Salt Lake City UT

Exhaled Breath Condensate And Tracheal Aspirates In Mechanically Ventilated Newborns-A Window Into The Lung—Susan Roark BSRT, Atlanta GA

Strategies To Reduce Unplanned Extubations In The Neonatal Intensive Care Unit—Jennifer Cerasoli, Atlanta GA

Non Invasive Ventilation In Preterm Neonates- Nasal Continuous Positive Airway Pressure Versus Nasal Intermittent Positive Pressure Ventilation: A Randomized Control Trial—Tisha Skariah MSc, Kottayam Kerela India

Optimization Of Extubation Within The BPD Population Utilizing A Paraextubation Process—Erin Wishloff, Columbus OH

Protocol-Driven Ventilator Management In Children With Congenital Heart Disease: A Comparison To Non-Protocol Care—Brandon Daigle, Plano TX

Respiratory Therapists Impact Developmental Care In The Intensive Care Nursery Through Sound Reduction—Renee Bartle, Durham NC

High Altitude Simulation Testing Of The Neonate Can Effect Discharge Planning—Jeanette Merrill-Henry, Loma Linda CA

Effects Of Condensate In The Exhalation Limb Of Neonatal Circuits On Airway Pressure (Paw) During Bubble Continuous Positive Airway Pressure (B-CPAP) —Tiffany Youngquist, Seattle WA

Comparison Of Pediatric Patients Admitted With Acute Respiratory Failure Who Were Trialed On Non-Invasive Ventilation Versus Patients Who Were Intubated—Michelle Lilley, Boston MA

Significant Vibratory Frequencies Are Present In Bubble CPAP Produced By The Babi.Plus—Mitchell Goldstein MD, Loma Linda CA

Agreement Between Transcutaneous And Arterial Carbon Dioxide Levels In A Cohort Of Critically Ill Pediatric Patients During High-Frequency Oscillatory Ventilation—John Priest, Hubbell Drive SC

Regional Distribution Of Ventilation Differences Between NAVA And PSV In Critically Ill Children—Craig Smallwood, Boston MA

Nitric Oxide Delivery In Neonatal Noninvasive Respiratory Support Devices—Rob DiBlasi RRT-NPS FAARC, Seattle WA

Open Forum Symposia

Tuesday, November 13, 1:00pm – 2:55 pm
Respiratory Care Open Forum #19
Ventilation/Ventilators—Part 3

Multidisciplinary Approach To Decreasing Extubation Time For Cardiovascular Surgery Patients—Victoria Roelker, Cincinnati OH

Effects Of The Water Chamber Level On Delta Pressure And Mean Airway Pressure On The 3100A High Frequency Oscillator—Jared Rice BSRT, Cleveland OH

Effect Of Positive Expiratory Pressure On Peak Expiratory Flow During Airway Pressure Release Ventilation—Steven Zhou, Cleveland OH

Comparison Of A Single Humidification System Versus A Duel Humidification System Using The VDR-4: An Experimental Study—Clarence Finch MBA MHA RRT, Houston TX

Duration Of The Spontaneous Breathing Trial Is A Predictor Of Reintubation—Ruben Restrepo MD RRT FAARC, San Antonio TX

Variability Of Dynamic Pressure And Flow In Hospital Medical Oxygen Gas Outlets—John Newhart RRT, San Diego CA

Noise Level Comparison Of Three Different Disposable Exhalation Valves Used With Single Limb Passive Bi-Level Ventilator Circuits—Cynthia White, Cincinnati OH

A Comparison Of Leak Compensation In Acute Care Ventilators During Non-Invasive Ventilation: A Lung Model Study—Jun Oto MD PhD, Boston MA

Providing Initial Lung Protective Ventilation In ALI/ARDS Patients: A Retrospective Review—Carl Haas MLS RRT AE-C FAARC, Ann Arbor MI

Exploration Of VAP In A Level 1 Trauma Center—Shawnessy Hill, D'Iberville MS

Bench Study Of The Relationship Between HFOV Amplitude And Endotracheal Tube Occlusion—Joel Brown II RRT, Newark DE

A Comparison Of Non-Invasive Proportional Pressure Ventilation And Spontaneous/Timed Modes On Total Patient Inspiratory Work Of Breathing In A Lung Model—Michael Sajor MSc, Naperville IL

Effects Of Leak Compensation On Cuff Leak Tests: A Bench Study—Andrew Weirauch RRT, Ann Arbor MI

Neurally Adjusted Ventilatory Assist Improves Patient-Ventilator Synchrony And Reduces Mean Airway And Peak Inspiratory Pressure In Pediatric Cardiac Patients—Jerrold Judd, Aurora CO

Effect Of Circuit Variations On Tidal Volume Delivery And Gas Exchange During High Frequency Oscillatory Ventilation—Christine Kearney, Durham NC

Tuesday, November 13, 1:00pm – 2:55 pm
Respiratory Care Open Forum #20
Education—Part 3

The Impact Of The Adult Critical Care Response Team On Patient Care And ICU Staffing—
Angela Ellis, Tougaloo MS

Using SimNewB To Develop A Decision-Making Simulation For Surfactant Administration And Management Of A 28-Week Gestation Infant In Respiratory Distress—Tammy Babcock MS, Galveston TX

Strategies For Simulation-Based Education In A Large Multi-Campus Academic Medical Center Respiratory Care Department—Teka Siebenlaer, Minneapolis MN

Development Of An Inter-Rater Reliability Training Tool—Jose Rojas PhD, Galveston TX

Partners In Pulmonary Health: A Student-Led Community Service Learning Project—Leonard Wittnebel MSIS RRT, San Antonio TX

Improving Communication Between Caregivers And Spanish Speaking Patients—Isaac Zamora, San Diego CA

Evaluation Of A Mechanical Ventilator Education Program For Intern Physicians In An Intensive Care Nursery—William Bucher, Philadelphia PA

Development Of An Online Equipment Setup Manual: Standardizing Equipment Setups To Complement Patient Safety And Staff Education—Abby Motz MS, Cincinnati OH

An Evaluation Of Cultural Awareness In The OSU School Of Health & Rehabilitation Sciences—Crystal Dunlevy EdD, Columbus OH

Inter-Rater Reliability Of A Respiratory Therapy Preceptor Training Program—Crystal Dunlevy EdD, Columbus OH

The Effects Of Skin Care Education For The Respiratory Therapy Staff On Respiratory Therapy Related Pressure Ulcer Incidence—Sherry Babic, Cleveland OH

Use Of Standardized Patients In Respiratory Care: Preclinical Experience In A Baccalaureate Program—Leo Wittnebel, San Antonio TX

Problem-Based Learning As A Teaching Method Versus Lecture-Based Teaching In Respiratory Therapy Education—Bandar Almasoudi BSRC MS RRT, Atlanta GA

Comparison Of A Simulation Scenario-Based Ventilation Instruction With Traditional Lecture—Robert Keegan DVM, Viola ID

National Board For Respiratory Care WRT Examination Scores And The Relationship To Academic Degree—Kathy Moss MEd, Columbia MO

Advanced Cardiac Life Support: Survey Of Integration In Associate Degree And Baccalaureate-Degree Granting Respiratory Care Education Curricula—Kathy Moss MEd, Columbia MO

AARC Congress 2012

28th Phil Kittredge Memorial Lecture

8:30 am – 9:20 am

This lecture provides a critical and incisive evaluation of an aspect of clinical respiratory care of emerging or increasing importance.

Timothy R Myers MBA RRT-NPS, Irving TX

Thinking Outside the Box: Moving the Profession Beyond the Hospital Walls

Healthcare delivery in the United States is facing a crisis of epic proportions with costs easily exceeding overall inflation by more than 3%. Many believe the system is broken and must be fixed as the US spends over $2.7 trillion (18% of GNP) on healthcare annually. While healthcare celebrates its innovation with cutting-edge technology and strives for clinical excellence, it is also complex and chaotic, extraordinarily expensive, and borders on irrelevancy for today's healthcare issues – it is not optimized or targeted for the day-to-day management of 21st century chronic diseases, wellness and disease prevention. The profession of respiratory care was born within the hospital walls just over 6 decades ago. While the knowledge, skills and attributes of the respiratory therapist are critically necessary in the acute care setting, the profession must move itself to a stronger position across the continuum of care within the next several years to stay ahead of the curve of healthcare reform. This presentation will look at the necessary strategies and values that respiratory therapists will need to embrace to move the profession beyond the hospital walls.

The largest respiratory care Exhibit Hall in the world will be open in New Orleans, Louisiana Saturday through Monday, Nov 10-12, 11:00 am–4:00 pm.

Many exhibitors will be offering show discounts. Make your purchasing plans now for "The Buying Show". Don't miss this unique opportunity with all the companies showing their latest products and advancements.

Monday, Nov 12

35TH Sputum Bowl® Finals Competition

7:00 pm

New Orleans Marriott

Supported by an unrestricted educational grant from COVIDIEN

The top four teams will advance to the Finals Monday evening along with the Student Sputum Bowl finalists.

Test your respiratory care knowledge in a fun and challenging atmosphere. Special half-time entertainment.

AARC CONGRESS 2012

New Orleans, LA • Nov. 10-13

Continuing Respiratory Care Education (CRCE)

AARC Congress 2012 is approved for all the credit hours you need to maintain your state license, more than 24 hours.

Exhibit Hours at The Buying Show:
Saturday - Monday, Nov 10 - 12, 11:00 am - 4:00 pm

Monday, Nov 12

Tidal Volume Determination for Neonatal Ventilation

9:30 am – 10:00 am

Tidal Volume Determination for Neonatal Ventilation

Sherry Courtney MD, Stony Brook NY

Everyone in the respiratory care field knows about the ARDS Network low tidal volume study for adults with acute lung injury. But what about neonates? What is the optimal tidal volume for neonates? Does the answer vary for those infants with lung injury as compared to those with normal lungs? This presentation will attempt to answer these very important questions and more.

Portable Sleep Studies

9:30 am – 10:00 am

Portable Sleep Studies

Jessica Schweller MS RRT-RCP RN NP-C, Columbus OH

This discussion will lead the audience down the path of how to setup and implement a portable sleep program. The presenter will discuss anticipated successes and failures that one is likely to experience along the way. The audience will also learn about the pros and cons of portable sleep testing, reimbursement, and reliability of results.

The Berlin Definition of ARDS

9:30 am – 10:00 am

The Berlin Definition of ARDS

William Hurford MD, Cincinnati OH

A new definition and classification of ARDS (the Berlin Definition) has been proposed. How does this compare to other definitions and classifications of ARDS severity? Will this new definition lead to new treatment strategies. Attend this presentation to find out!

RESPIRATORY CARE

Open Forum® Symposia

Supported by an unrestricted educational grant from monaghan

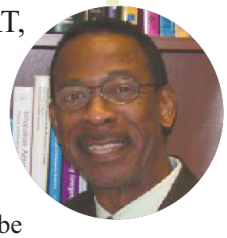
Clinicians present the results of their scientific studies. Abstracts with a similar focus are clustered into a symposium to encourage discussions and interactions among investigators and observers; posters expand the information presented. Twenty Open Forum Symposia will be presented during the four days of AARC Congress 2012. See pages 98–107 for symposium sessions, abstracts titles and authors.

Shared Governance, a Multidisciplinary Approach

9:30 am – 10:10 am

Shared Governance, a Multidisciplinary Approach

Victor Grazette PhD Exec.MBA RRT, Washington DC



Shared governance is a collaborative decision-making model initially implemented in hospitals by nursing staff. Benefits of shared governance are well documented, but can the same results be expected when utilized in RT departments? This presentation will discuss the shared-governance model and strategies for implementation. Attendees will learn how this model of leadership can lead to a more engaged workforce and a safer environment for patients.

Research and the Respiratory Therapist

9:30 am – 11:00 am

9:30 am – 10:00 am

How to Come Up with a Good Research Question and What to Do with It

John D Davies MA RRT FAARC, Durham NC

This lecture, led by an experienced researcher, will discuss perhaps the single most common deterrent to engaging in research… "How do I come up with a good research question and hypothesis?" Once attendees learn to overcome this hurdle, the process of developing an abstract and then authoring a manuscript will be discussed.

10:05 am – 10:30 am

The Institutional Review Board – What Is It and How Does It Help Guide Research

Robert Chatburn MHHS RRT FAARC, Cleveland OH

So you've developed a great idea for a research project. You've asked the question, identified the problem, and established a hypothesis… now what? This lecture will discuss the role of the Institutional Review Board, its role to protect patients, and as a facilitator between institutional research and the FDA. The resources that the IRB has to offer will also be highlighted.

10:35 am – 11:00 am

What Are the Different Types of Research Projects in Which RTs Can Play a Vital Role? From Bench to Publication

John D Davies MA RRT FAARC

This lecture will examine the different types of research projects available to respiratory therapists. Bench studies, case studies, prospective studies, retrospective reviews and equipment evaluations will be discussed.

Open Forums #11 and #12

9:30 am – 11:25 am

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Monday, Nov 12

Pulmonary Diagnostic: Evaluation of Dyspnea in the Teenage Population

9:30 am – 11:40 am

9:30 am – 10:10 am

Assessing the Cause of Dyspnea in the Teenager: There's a Test for That

Matthew J O'Brien MS RRT RPFT, Madison WI

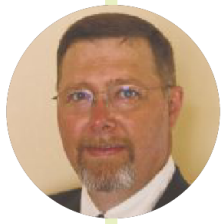
A frequently utilized tool to assist in the assessment of dyspnea in young patients is Exercise-Induced Bronchospasm testing. This lecture will also cover testing methods, monitoring, motivation and report output options that should be implemented in pediatric PFT labs.

10:15 am – 10:55 am

Alternative Airway Challenge Methods: Isocapnic Voluntary Hyperventilation and Cold Air

Ralph Stumbo Jr RRT CPFT, Tacoma WA

Alternative-testing options for bronchoprovocation can prove valuable when exploring vague complaints of dyspnea in otherwise healthy young patients. This presentation covers the basics of using isocapnic hyperventilation and cold air generators including video presentation of a CAC test being performed.



11:00 am – 11:40 am

Could This be Vocal Cord Dysfunction?

Carl D Mottram RRT RPFT FAARC, Rochester MN

This presentation will include methods used to identify airway anomalies/vocal cord dysfunction as well as interesting case examples.

Program Strategies for Transforming Your Students into Competent Therapists

9:30 am – 11:45 am

9:30 am – 10:00 am

How to Evaluate Students in the Classroom – an Accreditor's Perspective

Pat Munzer DHSc RRT FAARC, Topeka KS

As a program director, your definition of a quality student may not coincide with the definition from an accreditor. This presentation will describe methods for evaluating student performance in the classroom, the role of formative and summative evaluations, and maintaining records of a student's evaluation to comply with CoARC standards.

10:05 am – 10:35 am

Resources to Assist Students in Preparing for Credentialing Success

Sarah Varekojis PhD RRT RCP, Columbus OH

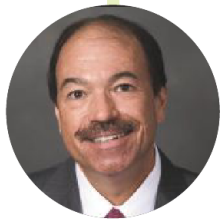
Is your program struggling with pass rates on credentialing exams? Are you insistent that your curriculum adequately prepares students for the rigors and critical thinking that come with a credentialing exam? The presentation will identify and compare resources available during and after program completion for improving success on credentialing examinations. The speaker will also include strategies for implementing these resources into the program curriculum.

10:40 am – 11:10 am

Methods of Incorporating Critical Thinking in Your Curriculum

David Shelledy PhD RRT FAARC, Chicago IL

Everyone knows that critical thinking is essential for long-lasting success in the profession, but not everyone knows how to implement critical thinking tools into a program's curriculum. This presentation will define critical thinking, identify and describe learning activities, and foster development of student critical thinking skills. The speaker will also describe methods of evaluating critical thinking proficiency in students.



11:15 am – 11:45 am

Competency-based Standards for Respiratory Care Education

Thomas R Smalling PhD RRT RPFT RPSGT FAARC, Bedford TX

The presenter will describe the concept of competency-based standards and will highlight the process for identifying professional competencies. Attendees will leave with the ability to compare a curriculum based on competencies vs. a curriculum based on tasks. The speaker will explain how competencies are likely to be incorporated into accreditation standards in the future.

Lung Protective Ventilation

9:30 am – 12:15 pm

9:30 am – 10:30 am

What Tidal Volume Should Be Used?

Richard H Kallet MS RRT FAARC, San Francisco CA

Does controversy still exist as it relates to the selection of tidal volume? Should 6 mL/kg be used for all patients with ALI/ARDS? What about those at risk for ALI? The presenter will discuss aspects RTs should consider when making tidal volume selections. Is a plateau pressure > 30 always bad? How low should we keep the plateau pressure? These and other questions will be answered in this presentation.

10:35 am – 11:05 am

How Is PEEP Selected for Patients with ALI/ARDS?

Richard D Branson MSc RRT FAARC, Cincinnati OH

This presentation will detail the evidence related to higher versus lower levels of PEEP in patients with ARDS? Is there a best way to determine the appropriate PEEP for an individual patient? Is there a place for recruitment maneuvers? Attend this session and better learn how to manage patients with ARDS.

11:10 am – 11:40 am

Gas Exchange Targets During Mechanical Ventilation

Neil R MacIntyre MD FAARC, Durham NC

The presenter will discuss the appropriate gas exchange target for patients on mechanical ventilatory support. Attendees will also gain a better understanding of the evidence on permissive hypercapnea and its role in identifying acceptable gas exchange targets. The speaker will answer the age-old question – "How does one balance lung protection and gas exchange?"

11:45 am – 12:15 pm

Are New Ventilator Modes Lung Protective?

Robert M Kacmarek PhD RRT FAARC, Boston MA

In today's age of exploding technology, it seems as though new ventilator modes are released to market on a daily basis. Yesterday's "best thing since sliced bread" is tomorrows "thing of the past." Do these new modes of ventilation really provide protection to the lung or are they simply re-packaged modes of the past? Are new modes really needed, or is simple volume/pressure controlled ventilation the only tool an RT needs in their arsenal? Attend this presentation to find out!

Monday, Nov 12

Palliative Care Symposium

9:30 am – 12:25 pm

9:30 am – 10:00 am

Educating Patients and Families About End-of-Life Care: Who, When and How

Robert Aranson MD FCCP FACP, Freeport ME

The presenter will discuss the reality of end-of-life care, futility and the need to educate the patient and family members about quality vs. quantity of life at the end. The role of the RT in supporting the physician and helping to educate the patient and family will be discussed.

10:05 am – 10:40 am

Palliative Care in Lung Cancer

Paul Selecky MD FACP FCCP FAASM FAARC, Newport Beach CA

This presentation will review the scientific evidence on symptoms and specific pulmonary complications associated with lung cancer. The presenter will provide RTs with information on the best way to palliate pulmonary symptoms in patients with lung cancer.

10:45 am – 11:15 am

Palliative Care and Dyspnea: Management of the End-Stage COPD Patient

Helen Sorenson MA RRT FAARC, San Antonio TX

The speaker will discuss mechanisms of dyspnea in COPD and the difficulty treating refractory dyspnea, common to well over 50% of patients with end-stage COPD. Following this presentation, attendees will be able to describe conventional therapy, the use of opioids and reasons why physicians may be reluctant to prescribe them.

11:20 am – 11:50 am

Addressing End-of-Life Care in a Pulmonary Rehabilitation Program

Mary Hart MS RRT AE-C FAARC, San Antonio TX

Discussions regarding end-of-life are never easy, but it's a conversation RTs must be prepared to have with their patients. This presentation will describe ways for the RT to introduce the end-of-life topic into a pulmonary rehabilitation program. The speaker will provide RTs with the information and tools they need to "start the hard conversations."

11:55 am – 12:25 pm

Wrap Up – An Overview of Palliative Care

Paul Selecky MD FAARC FAASM FACP FCCP

Dr. Selecky will discuss the scope of palliative care that must include the physical, emotional and spiritual suffering of the patient and family. The role of the RT as part of a multidisciplinary palliative care team will be discussed as well as ways one can respond to a patient who asks "Am I dying?"

Sepsis and the Role of the RT

10:10 am – 11:00 am

Sepsis and the Role of the RT

Lesley Smith RRT-NPS RPFT, Oakhurst CA

Once reserved for physicians and nurses, this presentation will discuss the role of the respiratory therapist in the initial assessment and treatment of sepsis. The presenter will emphasize the importance of early goal-directed therapies and their effect on patient outcomes. If you're seeking opportunities to expand the role of the RT in your facility, you won't want to miss this presentation!

Respiratory Therapeutics in the Neo/Peds ICU

10:10 am – 11:40 am

10:10 am – 10:40 am

Airway Clearance: Is It Worth the Effort?

Kathleen M Deakins MSHA RRT-NPS FAARC, Cleveland OH

This presentation will describe the evidence behind airway clearance devices and their benefits for infants and children in the critical care setting. The speaker will provide an overview of the cadre of devices available on the market and share with attendees an approach toward optimizing device selection.

10:45 am – 11:10 am

Neonatal Oxygenation: Hitting the Sweet Spot

Nancy Johnson RRT-NPS, Cleveland OH

This lecture will discuss the nuances of oxygenation in the neonatal population. The pros and cons of providing supplemental oxygenation for neonates will be discussed. How much is too much? What is the optimal saturation range? This lecture will also describe practical approaches to oxygen saturation targeting.

11:15 am – 11:40 am

Noninvasive Monitoring of the Child in Respiratory Distress

Michael R Anderson MD, Cleveland OH

This lecture will describe the various approaches in the ICU setting to assess the child in respiratory distress. Devices for noninvasive monitoring available to clinicians will also be discussed. The presentation will provide case scenarios to demonstrate the benefits of various monitoring devices. Have recent advances in monitoring really improved outcomes? Attend this session to learn the answer to this question and many others.

Credentialing for Sleep Practitioners: What Options Do I have?

10:10 am – 11:50 am

10:10 am – 11:00 am

The Personal Credential (BRPT, NBRC, AMSM credentials): Similarities and Differences

Brian W Carlin MD FAARC, Pittsburgh PA

This session will review the content outlines for the various types of certification programs available for sleep specialist certification including the NBRC, BRPT and AASM credential. Similarities and differences amongst the program will be discussed. Is one credential superior to the others? Which one(s) should you acquire? This presentation will help guide you in your decision making.

11:10 am – 11:50 am

The Program Credential (AASM, ACHC, TJC): Similarities and Differences

Sheri Tooley BSRT RRT-NPS CPFT AE-C, Adams Center NY

This session will review the similarities and differences between the various types of program certification programs that are currently available through the AASM, ACHC and The Joint Commission. Strategies to assist programs to successfully gain accreditation will be discussed. Is one program superior to the others? Attend this presentation to find out.

Monday, Nov 12

Looking Beyond the Horizon of Your Profession

10:15 am – 10:55 am

Looking Beyond the Horizon of Your Profession

Victor Grazette PhD Exec.MBA RRT, Washington DC

For many respiratory therapists, perceived scope of practice ends at the walls of their hospital. This presentation will make the case for advanced-practice respiratory therapists to practice as a physician extender in the physician office. The presenter will provide a working template for those desiring to achieve this level of practice and how one can measure success in this value-added role.

Succession Planning: Preparing Your Staff to Replace You

11:00 am – 11:50 am

Succession Planning: Preparing Your Staff to Replace You

Jan Thalman MS RRT FAARC, Durham NC

The prospects of planning retirement can be both enlightening and daunting for the department manager. Far too many organizations do not fully commit to creating a plan to select, educate, and mentor the individuals to take over the reins. As a result, organizations are thrust into either hiring externally or hastily promoting a proven clinician to the ranks of leadership without having invested in them until the last minute. The speaker will provide a template to follow for creating a logical, systematic, and proven method of preparing for the transition of leadership.

Ventilator-Induced Surfactant Dysfunction

11:10 am – 11:50 am

Ventilator-Induced Surfactant Dysfunction

Peter J Papadakos MD, Rochester NY

This presentation will describe a new pathophysiologic scenario for the development of acute respiratory distress syndrome (ARDS). Ventilatory strategies aimed at preventing the development of ARDS will be presented. Is one mode superior to another? What can the clinician do? This presentation will answer those and other questions.

Venous Blood Gases: Friend or Foe?

11:10 am – 11:50 am

Venous Blood Gases: Friend or Foe?

Andrew G Miller RRT, Durham NC

This lecture will differentiate between peripheral and central venous blood gases. The evidence supporting the use of peripheral venous gases will be discussed. This presentation will highlight when one test should be recommended over the other and when venous blood gas values offer insight to the RT that arterial gases do not.

Open Forums #13 and #14

12:30 pm – 2:25 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Nutritional Support of the Critically Ill Mechanically Ventilated Patient

1:00 pm – 1:30 pm

Nutritional Support of the Critically Ill Mechanically Ventilated Patient

Ulrich Schmidt MD PhD, Boston MA

Respiratory therapists often overlook nutritional support required by mechanically ventilated patients. This presentation will discuss current guidelines for dietary needs for this patient population and potential benefits of proper nutrition. The presenter will also review results of the ARDSNet trials related to nutritional support, such as omega-3 fatty acids and statins. How can RTs make a difference? What additional equipment requirements are needed? Attend this lecture to find out!

Respiratory's Role in the Incident Command System

1:00 pm – 1:30 pm

Respiratory's Role in the Incident Command System

Mark D Babic RRT, Lakewood OH

When a disaster happens and your hospital activates the Incident Command Center (ICC) what does it mean? This presentation will address the ICC and the valued role of the RT with regards to planning, implementation, and measurement of performance. In addition, the presenter will provide a brief description of the Department of Homeland Security's free program.

Sleep Apnea in the Bariatric Population

1:00 pm – 1:30 pm

Sleep Apnea in the Bariatric Population

Jessica Schweller MS RRT-RCP RN NP-C, Columbus OH

Many bariatric patients have OSA pre-operatively, but how many resolve their OSA after weight loss surgery? This discussion will allow the audience to understand the correlation between OSA and obesity and to understand how significant weight loss via surgery can impact the severity of their apnea. The audience will also learn how to reduce the rate of surgical complications in these patients and understand how monitoring and compliance of therapy is continued after surgery.

Developing Your Skills as a Patient Educator

1:00 pm – 1:30 pm

Developing Your Skills as a Patient Educator

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

With patients leaving the hospital sicker and with more care being done in outpatient settings or at home, patients need to become active, informed participants on their health care team. This presentation will address the essential skills that therapists need to develop in order to provide effective education to patients with specific diseases, including special populations. The speaker will share teaching strategies that result in better informed patients and a more positive teaching/learning experience.

Monday, Nov 12

Exhaled Nitric Oxide in Pediatric Asthma: Friend or Fallacy

1:00 pm – 1:30 pm

Exhaled Nitric Oxide in Pediatric Asthma: Friend or Fallacy

Bruce K Rubin MD MEngr MBA FAARC, Richmond VA

An exhaled nitric oxide test is a non-invasive testing methodology that has been proposed as a non-invasive biomarker of the inflammatory aspects of asthma. This lecture will discuss the current and future clinical utility of this non-invasive testing in the diagnosis and management of pediatric asthma. Attend this lecture and determine whether exhaled nitric oxide is a viable diagnostic tool for you.

Moving New and Emerging Technology from Laboratory to Bedside: The Use of Therapeutic Intrathoracic Pressure Regulation (TIPR) for the Apneic Hypotensive Patient

1:00 pm – 1:30 pm

Moving New and Emerging Technology from Laboratory to Bedside: The Use of Therapeutic Intrathoracic Pressure Regulation (TIPR) for the Apneic Hypotensive Patient

Richard D Branson MSc RRT FAARC, Cincinnati OH

This lecture will describe the process and challenges experienced when moving technology from the bench to the bedside. The author's experience with integrating TIPR for the apneic hypotensive patient will be described. Don't miss out on this opportunity to hear from one of the world's leading respiratory researchers on this new and innovative technology!

Home Oxygen Therapy: Growing Demand in a Challenging Environment

1:00 pm – 2:05 pm

1:00 pm – 1:30 pm

Finding a Way in Spite of the Obstacles

Robert W McCoy RRT FAARC, Apple Valley MN

This presentation will detail the comprehensive list of obstacles that home care companies face as a result of on-going cost-containment initiatives. Regardless of these obstacles, the respiratory therapist must still identify opportunities to provide value-added care. The presenter will discuss strategies that can be used to provide effective LTOT in spite of such challenges.

1:35 pm – 2:05 pm

Educating the COPD Patient at Home: What Works, What Doesn't and Why

Louis M Kaufman RRT-NPS AE-C FAARC, Germantown MD

Providing education to COPD patients in the home is a necessary but challenging undertaking, made more difficult with the lack of any such training prior to hospital discharge. The presenter will discuss and share "tricks of the trade" to help COPD patients understand their self-care responsibilities and promote sustained adherence. This presentation will benefit the hospital-based RT and homecare therapist alike. Don't miss out on this opportunity to truly impact the lives of the COPD patients you serve!

Permissive Ventilation: Protecting the Lung

1:00 pm – 2:15 pm

1:00 pm – 1:35 pm

Permissive Hypercapnia: How High Is Too High?

Michael R Anderson MD, Cleveland OH

Permissive hypercapnia has been a management strategy for patients with acute lung injury for the past decade. But, to what extreme can this approach be taken? What are the clinical effects of respiratory acidosis? And most importantly, what are the risks and benefits associated with this ventilatory strategy? This national expert will address these clinically relevant questions.

1:40 pm – 2:15 pm

Permissive Hypoxemia: How Low Is Too Low?

Ira M Cheifetz MD FCCM FAARC, Durham NC

As a new approach to lung protection, one may permissively allow hypoxemia in an attempt to minimize ventilator induced lung injury. But, how far can this approach be taken? This presentation will describe the physiologic rationale in support of this approach. The potential future of this therapeutic strategy will be speculated.

The Role of the RT with Lung Transplant

1:00 pm – 2:25 pm

1:00 pm – 1:40 pm

The Human Lung Lab

David M Wheeler RRT-NPS, Cleveland OH

This presentation will discuss inclusion criteria for the harvested human lung and highlight the emerging technologies for the evaluation, rescue and resuscitation of the harvested lung (in the ex-vivo state) that does not meet transplant criteria. The crucial role of the respiratory therapist in the process of harvested lung resuscitation will be highlighted.

1:45 pm – 2:25 pm

Optimizing Outcomes for Lung Transplant Recipients

Jeffrey Davis RRT, Los Angeles CA

This lecture will present the differential modalities and therapies required for lung transplant patients, from nitric oxide and inhaled anti-fungals, to chest physiotherapy, mechanical ventilation and everything in between. Respiratory care nuances and clinical outcomes will be presented.

Monday, Nov 12

Program Committee Spotlight: Respiratory Controversies

1:35 pm – 3:40 pm

1:35 pm – 2:35 pm

Do Full Feature Ventilators Add Value?

Pro: Neil R MacIntyre MD FAARC, Durham NC

Con: Dean R Hess PhD RRT FAARC, Boston MA

In today's age of emerging technology, ventilator manufacturers are continually releasing new modes aimed at improving ventilatory outcomes and improving efficiency of the respiratory therapist, each coming with their own set of "bells and whistles". Once built with specific patient populations in mind, ventilators of today serve all patients from neonates to geriatrics. Are these ventilators really needed? Are they the future of mechanical ventilation? Or will we eventually return to the day where "good air in, bad air out" is all that is really needed. This lecture will provide a point/counter-point discussion on the relevance and value of full feature ventilators.

2:40 pm – 3:40 pm

Routine Respiratory Care: Should It Be Done by the Respiratory Therapist?

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

Con: Timothy R Myers MBA RRT-NPS, Irving TX

In the evolving healthcare arena, a renewed focus on efficiency, effectiveness, quality and productivity is a must for tomorrow's respiratory care department. With patient acuity and complex technologic interventions on the rise, what is the role of the respiratory therapist in delivering "traditional" routine therapeutic interventions in the new healthcare landscape? Will it be essential for the RT to deliver, or will care by EMTs, nurses or nurses' aides be the future of routine respiratory care on the floors? This lecture will provide opposing viewpoints from the respiratory care administrator's office.

Alternatives to Inhaled Nitric Oxide

1:40 pm – 2:20 pm

Alternatives to Inhaled Nitric Oxide

Rory Mullin RRT, Cleveland OH

Appropriate and off-label use of nitric oxide has exploded over the last decade. Most RTs will not refute the effectiveness of this drug, but financial constraints limit its use in most facilities. This lecture will discuss the use of inhaled nitric oxide, concerns over cost and pharmacologic alternatives. Delivery methods and patient considerations will also be discussed.

Patient Safety

1:40 pm – 3:10 pm

1:40 pm – 2:20 pm

Patient Safety and Ventilator Adjustments: Who Changed the Vent Settings?

Dan Grady MEd RRT FAARC, Asheville NC

Patient safety has become a top priority for the profession in 2012. This presentation will discuss patient safety, cost, and communication issues when non-RTs adjust ventilator settings. Research studies will be presented, and the role of a state licensing board in addressing this issue will be described. Regulatory resources, position statement, and a policy template will be described to improve patient safety.

2:30 pm – 3:10 pm

Patient Safety and Staffing Levels: What Are the Consultants Thinking?

Dan Grady MEd RRT FAARC

CMS requires adequate numbers of RC staff for "safe" delivery of services to patients. However, consulting firms utilize some metrics that may impact safety with regard to inappropriate staffing levels. This presentation will review evidence-based metrics to determine safe staffing levels, examples of research that link staffing to patient safety, regulatory strategies to ensure safe staffing, and examples of tools to adjust staffing and reduce costs while ensuring patient safety and demonstrating good clinical outcomes. The risks and benefits of developing fixed staffing ratios will be discussed.

Sleep and Internal Medicine

1:40 pm – 3:10 pm

1:40 pm – 2:20 pm

Obstructive Sleep Apnea: Long-Term Health Consequences, Drowsiness Aside

James K O'Brien MD FACP FCCP, Lakewood CO

There are many long-term health consequences of obstructive sleep apnea that are unrelated to drowsiness. Health concerns including risk of cardiac arrhythmia, atherosclerosis, weight disruption and hormonal changes such as insulin resistance will be discussed. This presentation will review the pathophysiology of the above in a reasonable and understandable fashion.

2:30 pm – 3:10 pm

Sleep and Critical Care

James K O'Brien MD FACP FCCP

Medication administration, patient assessment, bathing, and linen changes are all frequent interruptions that disrupt sleep in the ICU. This presentation will discuss risks and medical implications that take place when constant sleep disruptions occur in the intensive care unit. The lecturer will share the most recent scientific evidence on the importance of sleep in the ICU, clinical outcomes as it relates to the lack of sleep, and what RTs can do to help maximize sleep for the patient.

Pulmonary Diagnostics: Physiology

1:40 pm – 3:10 pm

1:40 pm – 2:20 pm

Non-Respiratory Functions of the Lung

Marshall B Dunning III PhD MS RPFT RCP, Milwaukee WI

Gas exchange is perhaps the most paramount of all functions performed by the lung. RTs should not forget, however, the other vital physiologic roles carried out by the lung. This presentation will discuss the importance of why the RT is "in the know" when it comes to the following roles of the lung: immunology, metabolism, filtering and reservoir for blood.

2:30 pm – 3:10 pm

Physiology of Normal Sleep

Marshall B Dunning III PhD MS RPFT RCP

What happens to the cardiovascular, respiratory, GI, neuromuscular and endocrine systems during sleep? Is it important that you know? This speaker will explore and detail these interactions during normal sleep and the vicious cycle that takes place with the patient's overall health when sufficient sleep is not experienced.

Monday, Nov 12

The Business of Pulmonary Rehabilitation

1:40 pm – 5:00 pm

1:40 pm – 2:20 pm

Structuring a Pulmonary Rehabilitation Program

Debra Koehl MS RRT-NPS Indianapolis IN

This presentation will review various models that have been used for pulmonary rehabilitation programs around the country. The speaker will address how each model is unique to the care settings and patient populations being served. This is a "can't miss" presentation for anyone thinking about starting their own PR program.

2:30 pm – 3:10 pm

Understanding Reimbursement Issues in Pulmonary Rehabilitation

Anne Marie Hummel, Washington DC

The speaker (AARC's director of regulatory affairs in Washington, DC) will provide an update regarding changes to insurance coverage for pulmonary rehabilitation, focusing on the changes to Medicare reimbursement of pulmonary rehabilitation. The speaker will also provide a review of current legislative regulations and discuss resource tools available to members of the AARC.

3:20 pm – 4:00 pm

The Necessary Skills for Your Pulmonary Rehabilitation Program

June Schulz RRT AE-C FAACVPR, Brandon SD

The speaker will discuss the skill-sets needed to effectively work in a pulmonary rehabilitation program. Anatomy and physiology, social skills and patient education will be just a few that are discussed. The presenter will discuss components of an effective orientation program as well as the most effective way to structure your annual competency skills validations. Attend this presentation to maximize the knowledge, skills and attributes of your staff.

4:10 pm – 5:00 pm

Keeping Your PR Program Vital – Building Your Business

Trina M Limberg RRT FAARC, San Diego CA

This presentation will highlight proven strategies for marketing and growing your slice of the pulmonary rehabilitation pie. The benefits of growing a PR program are obvious, but risks, limitations and other obstacles are far less conspicuous. The speaker will discuss potential hurdles that must be overcome when expanding a PR program.

Pomp & Circumstance: Surviving and Thriving After Graduation

2:10 pm – 4:45 pm

2:10 pm – 2:40 pm

Becoming a Professional in Respiratory Care

Toni L Rodriguez EdD RRT FAARC, Phoenix AZ

This presentation will provide an overview of the profession of respiratory care to include its evolution, role and value to patients and hospitals. Emphasis will be placed on the characteristics and traits of a professional and the critical importance of being involved and maintaining active professional membership.

2:45 pm – 3:00 pm

Getting Credentialed (Part I): An Overview of Professional Credentials

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

The presentation will address the credentialing process. It will specifically provide an overview of the wide array of credentials available to the recent graduate or the seasoned practitioner. Emphasis will be placed on pursuit of additional professional credentials and the value that credentials hold in today's health care system.

3:05 pm – 3:35 pm

Getting Credentialed (Part II): Success on the Written Exams

Bill Galvin MSEd RRT CPFT AE-C FAARC

The presentation will address factors that allow for successful completion and passing of NBRC written credentialing exams. The lecturer will discuss preparatory issues, what you will experience on-site, as well as test-taking strategies and techniques. Emphasis will be placed on the written component of the NBRC credentialing process. Is there value in taking an exam prep course? What are the pros and cons? Attend this lecture to find out!

3:40 pm – 4:10 pm

Networking for Career Success

Colleen L Schabacker RRT FAARC, Cookeville TN

Due to the lack of meaningful work experience, many young RT graduates lack the skills to construct a high quality resume or perform well during the interview process. This presentation will provide an overview of the job selection process to include the resume and culminating with a successful interview. Emphasis will be placed on securing meaningful and satisfying employment.

4:15 pm – 4:45 pm

It's Never Really Over: Continuing Your Education

Lynda T Goodfellow EdD RRT FAARC, Atlanta GA

This presentation will provide an overview of continuing education needs after completion of your RC education. Emphasis will be placed on lifelong learning and the need for continued professional education long after graduation. The presenter will discuss potential benefits to professional learning and opportunities for career growth as a result.

Monday, Nov 12

ECMO on the Cutting Edge

2:20 pm – 4:45 pm

2:20 pm – 2:55 pm

Where Have We Come From, and Where Are We Going?

Brian K Walsh MBA RRT-NPS FAARC, Dallas TX

The field of extracorporeal life support has advanced over the past decade as much as any other in the field of critical care. This presentation will briefly review the current state of ECMO and will then offer thoughts on the future. Will ECMO see increasing use as a lung protective strategy? Is it appropriate that ECMO be reserved for those situations in which all else failed or would earlier use lead to improved outcomes for those with refractory cardiorespiratory failure? The future of this rapidly developing field will be discussed.

3:00 pm – 3:30 pm

Awake and Interactive ECMO: Really?

Ira M Cheifetz MD FCCM FAARC, Durham NC

Critical illness myopathy is a well know entity, which significantly affects long-term outcomes. There is a growing trend toward minimizing sedation for mechanically ventilated patients. But what about those requiring ECMO? Can ECMO patients be awake and interactive? Attend this session to learn the available data, review the rationale behind this approach, and learn novel strategies to the management of the ECMO patient.

3:35 pm – 4:05 pm

ECMO: Not Just for Kids Anymore!

Neil R MacIntyre MD FAARC, Durham NC

As the use of ECMO in the neonatal population continues to gradually decline, its use in the adult world continues to escalate. This presentation by a pioneer in adult ECMO will review the available data and rationale for adult ECMO. Criteria, management strategies, and limitations of this approach will be discussed.

4:10 pm – 4:45 pm

Circulatory Support: Not Just for Adults Anymore!

George Ofori-Amanfo MD, Durham NC

As ECMO advances into the adult world, circulatory support in the form of ventricular assist devices is advancing into the pediatric world. This presentation will review the available ventricular assist devices and their application in pediatrics. Thoughts for the future of this life-saving technology will be offered.

Are We Ventilating People to Death?

2:30 pm – 3:10 pm

Are We Ventilating People to Death?

Dan Davis MD, San Diego CA

The literature demonstrates that over-ventilating brain-injured patients often contributes to poor outcomes. Does the rationale carry over to non brain-injured patients as well? This lecture will review the pathophysiology, mechanisms, and risk factors that influence clinical outcomes. You may rethink your ventilatory strategies following this lecture!

Program Committee Spotlight: Leading from the Front Lines

2:30 pm – 4:45 pm

2:30 pm – 3:00 pm

How to "Manage Up"

Regenia Stull MSN RN CNO, Rolla MO

How many of us report to a leader who is not from our profession? How do you translate what you do and how you do it in terms that she/he will understand and appreciate? The speaker (a nurse) will provide attendees with what non RT-leaders need to understand as it relates to the value brought to the table by respiratory therapists. The presenter will provide tips and helpful hints on how RTs can work collaboratively with leaders from different clinical backgrounds.

3:05 pm – 3:35 pm

Therapist as Consultant

Teresa A Volsko MHHS RRT FAARC, Youngstown OH

Therapist-driven protocols have been shown to improve financial, process and patient outcomes across the continuum of care. This lecture will review lessons learned from formally established programs and discuss the process to initiate consultative services along the continuum of care. Is this the new future of respiratory therapy? Will we continue to deliver routine floor therapy or will we be relied upon as consultants? Attend this lecture to find out!

3:40 pm – 4:10 pm

Interdisciplinary Collaboration – Needed Now More Than Ever!

Regenia Stull MSN RN CNO

Building from the perspective of a former staff nurse, nurse manager, and manager of a variety of clinical departments – including RT-the speaker will present examples of collaboration between clinicians that have led to improved quality outcomes and operational performance. Don't miss out on this opportunity to impress your boss with successful, proven best practices!

4:15 pm – 4:45 pm

Leading Without a Title

Scott Reistad RRT CPFT FAARC, Colorado Springs CO

For those who think that leadership emanates from a titled position and that those of us providing care at the bedside aren't empowered to lead, you'll be delighted to learn ways in which front-line clinicians can positively impact hospital operations by taking a leadership role. What are those opportunities? How do you lead without a title? How can you do it in the face of adversity from peers? Hear these answers from a successful manager whose entire staff leads his department… without a title.

Open Forums #15 and #16

3:00 pm – 4:55 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Monday, Nov 12

Pro-Con: Clinical Ladder –Does a Truly Professional Workforce Need It?

3:15 pm – 4:00 pm

Pro-Con: Clinical Ladder – Does a Truly Professional Workforce Need It?

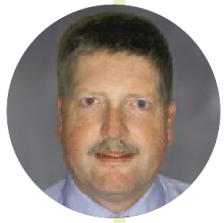
Pro: Richard M Ford RRT FAARC, San Diego CA

Con: Brian K Walsh MBA RRT FAARC, Dallas TX

Most of us have seen clinical ladders come and go throughout the years. Proponents suggest that clinical ladders enable the growth, development, and specialization of professionals while opponents feel that clinical ladders are not needed and only serve as a means of financially compensating some at the expense of others. You'll hear a host of other reasons as to why you should implement/eliminate the clinical ladder from your department. Attend this lecture and hear from two nationally recognized leaders on issues you should consider when addressing your clinical ladder… or before you start one.

Diagnostics: Stepping Outside of the PFT Suite

3:20 pm – 4:00 pm



The Potential Use of Hyperpolarized Xenon MRI as an Imaging Tool for Ventilation

John D Davies MA RRT FAARC, Durham NC

Although CT imaging is one of the diagnostic mainstays for ventilation defects, it comes with the risk of radiation exposure. The use of hyperpolarized xenon during an MRI is a potentially new diagnostic tool that has the advantage of no radiation exposure to the patient. This lecture will examine how the hyperpolarized xenon MRI works and the potential imaging benefits. What opportunities are there for the RT? You'll have to attend this presentation to find out!

Screening for Obstructive Sleep Apnea: An Expanded Role for Respiratory Therapists

3:20 pm – 4:00 pm

Screening for Obstructive Sleep Apnea: An Expanded Role for Respiratory Therapists

Andrew J Mazzoli PhD RRT CPFT, Augusta GA

The background, knowledge, and clinical expertise of respiratory therapists make them well suited for an expanded role in screening for obstructive sleep apnea (OSA). This presentation includes an overview of screening instruments, with a focus on those shown to be predictors of OSA and the additional physiologic measurements required for their use. The presentation concludes with a report on the successful use of an OSA screening tool by RTs in the community setting.

Asthma: Current Evidence for Emergency Department Management

3:20 pm – 4:10 pm

Asthma: Current Evidence for Emergency Department Management

Dana Evans MHA RRT-NPS AE-C, St Louis MO

This lecture provides an overview of diagnostic options and treatment strategies for patients who present to the ED in an acute exacerbation of asthma. Pharmacological interventions and a brief review of educational approaches will be discussed. This is a "can't miss" presentation for anyone whose emergency department is inundated with asthmatics.

Oxygenation: "Diagnosing" a Moving Target
3:45 pm – 4:35 pm

Oxygenation: A Moving Target per Diagnosis

Lois Rowland MS RRT-NPS RPFT FAARC, Midlothian VA

This presentation will integrate clinical practice guidelines with scientific evidence in establishing diagnosis-specific oxygen targets. Establishing oxygen for premature neonates as well as patients with traumatic brain injury, post cardiac arrest and chronic lung disease will be discussed.

Creating a Culture of Accountability
4:10 pm – 5:00 pm

Creating a Culture of Accountability

Cheryl A Hoerr MBA RRT CPFT FAARC, Rolla MO

Many have a negative impression of "accountability," and most think of it as knowing who to blame when things go wrong. However, good managers and leaders define accountability in a positive way and use it as a framework to develop and coach their employees. This presentation will review several different frameworks for developing an accountable culture within your organization and the positive outcomes that can be achieved in terms of patient safety, employee engagement, and patient satisfaction.

Challenges in Medical Transport: Ventilation
4:10 pm – 5:00 pm

Challenges in Medical Transport: Ventilation

Wade Scoles RRT-NPS NREMT, Spokane WA

This interactive presentation will discuss actual transport cases of adult, pediatric and neonatal patients. The presenter will focus on the unique challenges and limitations of ventilating critically ill patients with the current generation of transport ventilators. The presentation will also briefly describe the challenges of NIV during transport that does not impose upon our land-based colleagues.

Sleep Apnea in the Preoperative Setting: How to Develop an Effective Detection and Management Program
4:10 pm – 5:00 pm

Sleep Apnea in the Preoperative Setting: How to Develop an Effective Detection and Management Program

Sheri Tooley BSRT RRT-NPS CPFT AE-C, Adams Center NY

This session will review the pathogenesis of sleep-disordered breathing and the interactions that could potentially occur during the operative and post-operative periods. The presenter will discuss best practices in capturing the undiagnosed sleep apneic patient prior to surgery as well as potential strategies for managing this patient population following surgery. Clinical practice guidelines from the American Academy of Anesthesiologists and American Academy of Sleep Medicine will be discussed.

Hyperbaric Medicine
4:15 pm – 4:55 pm

Hyperbaric Medicine: Physiology and Clinical Application

Clifford E Boehm MD RRT, Baltimore MD

This presentation will provide a physiologic review and clinical application of hyperbaric oxygen therapy. The lecturer will also detail opportunities and roles for the respiratory therapist, especially in those patients with ventilator assistant needs. If your hospital is considering the expansion of outpatient services that includes HBO, then this is a "can't miss" presentation for you!

AARC Congress 2012

Continuing Respiratory Care Education (CRCE)

AARC Congress 2012 is approved for all the credit hours you need to maintain your state license, more than 24 hours.

Does Your Ventilatory Strategy Affect the Heart?

8:30 am – 9:00 am

Does Your Ventilatory Strategy Affect the Heart?

George Ofori-Amanfo MD, Durham NC

Much is taught about lung protective ventilation, but what about cardiac protective ventilation? How does your ventilatory strategy affect the heart and your patient's hemodynamics? This presentation will review the principles of cardiorespiratory interactions in a user-friendly, understandable fashion.

Surfing the Wave of the Silver Tsunami

8:30 am – 9:00 am

Surfing the Wave of the Silver Tsunami

Helen M Sorenson MA RRT FAARC, San Antonio TX

The speaker will define "Silver Tsunami" and discuss the impact that the aging population will have on health care facilities, health care economics and the future workforce and caregiver shortages. The speaker will also present potential solutions for "surfing the wave" of the growing elderly population. Are you ready? Grab your surf board and hop on the wave!

Critical Issues in the Transport of Critically Ill Patients

8:30 am – 9:00 am

Critical Issues in the Transport of Critically Ill Patients

Steven E Sittig RRT-NPS FAARC, Rochester MN

The importance of critical care transport is well established in media and literature, but are all transport programs truly prepared to transport the critical care patient? The presenter will describe the issues faced by the Commission on Accreditation for Medical Transport Systems (CAMTS) to determine if a program applying for accreditation is truly critical care based on scope of practice and training. This lecture will explain the development and define the 4 levels of critical care developed by the CAMTS Board. What roles and opportunities exist for RTs in transporting the critical care patient? You'll have to attend this presentation to find out!

Tuesday, Nov 13

International Respiratory Care

8:30 am – 9:45 am

8:30 am – 9:10 am

Planning Your Trip to the Moon: Pursuing Unique Opportunities

Lisa Trujillo MS RRT, Ogden UT

This lecture will explore the possibilities each RT has in making a greater impact on the world around them. Examples of developing respiratory care in Xi'an, China, and providing medical humanitarian projects in Ghana, West Africa, will be discussed. The presenter will provide insight into how one person can really make a difference. This difference will not only impact the practitioners themselves, but those they serve, care for and teach throughout this process.

9:15 am – 9:45 am

Research with a Global Reach: PFT Research in Obscure Environments

Lisa Trujillo MS RRT

This lecture will share research opportunities in different corners of the world, including the planning, funding, coordinating and data collecting involved in such a project. Preliminary research results will also be shared from a project in Ghana to illustrate the necessity of research of this kind and what can be done within this and other countries to improve the identified problem(s) once the data has been analyzed.

RESPIRATORY CARE

Open Forum® Symposia

Supported by an unrestricted educational grant from monaghan

Clinicians present the results of their scientific studies. Abstracts with a similar focus are clustered into a symposium to encourage discussions and interactions among investigators and observers; posters expand the information presented. Twenty Open Forum Symposia will be presented during the four days of AARC Congress 2012. See pages 98–107 for symposium sessions, abstracts titles and authors.

Tuesday, Nov 13

Reduce the "Despair" in Disparities

8:30 am – 10:00 am

8:30 am – 9:00 am

Healthcare Disparities

Crystal Dunlevy EdD RRT RCP, Columbus OH

Discussing the root cause of healthcare disparities in vulnerable populations can foster both understanding and willingness to adapt current practice among healthcare providers. This presentation will examine individual differences in patient/client populations from the perspectives of disability, chronic disease and culture, and the impact of these factors on health and wellness.

9:05 am – 9:35 am

Health Literacy

Georgianna Sergakis PhD RRT RCP, Columbus OH

Low health literacy impacts the health and vulnerability of patients. This presentation will address fundamental concepts related to health literacy and describe strategies in which to take individual and institutional responsibility for reducing the impact of low health literacy in respiratory care. Use of interactive vignettes will put your health literacy evaluation skills to the test to improve your professional skills in providing clear health communications.

9:40 am – 10:00 am

Mechanisms to Reduce Healthcare Disparities

Crystal Dunlevy EdD RRT RCP

No RCP working in the current healthcare system would dispute the fact that vulnerable populations do not receive the same quality of care as their more fortunate counterparts. This presentation will discuss mechanisms to improve the healthcare of vulnerable populations. What is the role of the RT? What skills, traits and attributes are needed? This presentation will answer those and other questions.

I'm an RC Manager, Now What?

8:30 am – 10:05 am

8:30 am – 8:50 am

How Did I Get Here?

Garner Faulkner RRT, San Diego CA

Leaders in respiratory care often evolve from the exceptional performance in the clinical environment with little or no formal training in leadership practice or management essentials. Qualities valued in leadership, avoidance of common pitfalls, and the most important qualities to be successful will be presented. This presentation is ideally suited to the new or inexperienced manager. Those aspiring for leadership roles in respiratory therapy are also welcome.

8:55 am – 9:15 am

Allocating Resources through Creative Scheduling

Jan Phillips-Clar RRT, La Jolla CA

Regardless of your department size, scheduling staff effectively is critical to success. Scheduling systems need to address work area(s), special assignment rotations, facilitate cross-utilization, and provide a clear representation of equity. A staffing plan will be presented with tools that have contributed to its success. This presentation is a "must see" for any manager struggling with staffing and productivity management issues.

9:20 am – 9:40 am

The "A" Team: How Do I Make the Roster?

Garner Faulkner RRT

Developing high-functioning teams and being designated as an "employer of choice" requires leadership to commit to developing and living in a new culture. The elements of team development, programs that engage staff, and sustaining a focused environment will be presented. Attend this lecture to find out how you can turn your "B" team into an "A" team.

9:45 am – 10:05 am

Staying Connected – The Challenge of Communication

Jan Phillips-Clar RRT

Communicating critical information to staff 24/7 is a challenge. A leader will fail without being able to share ideas, issue mandates, and provide solutions. The attendee will gain a new appreciation for pitfalls in communication and the use of tools and systems that ensure every staff member has access to needed information. What mechanisms are in place at your institution to communicate important issues to staff efficiently? Attend this presentation and identify how you can compliment what you arleady have in place.

Respiratory Care Symposium

8:30 am – 11:50 am

8:30 am – 9:00 am

The Current State of the Journal

Dean R Hess PhD RRT FAARC, Boston MA

An update of activities of the Journal over the past 5 years.

9:05 am – 9:35 am

The Best 5 Research Papers Published in Respiratory Care in 2012

Richard D Branson MSc RRT FAARC, Cincinnati OH

An overview of the 5 best research papers published in Respiratory Care in 2012.

9:40 am – 10:10 am

The 5 Best Case Reports Published in Respiratory Care in 2012

Dean R Hess PhD RRT FAARC

An overview of the 5 best case reports published in Respiratory Care in 2012.

10:15 am – 10:45 am

Oxygen: Summary of the Respiratory Care Journal Conference

Neil R MacIntyre MD FAARC, Durham NC

An overview of the Respiratory Care Journal Conference on Oxygen.

10:50 am – 11:20 am

Adult Mechanical Ventilation in Acute Care: Summary of the Respiratory Care Journal Conference

Richard H Kallet MS RRT FAARC, San Francisco CA

An overview of the Respiratory Care Journal Conference on adult mechanical ventilation.

11:25 am – 11:50 am

Roundtable: Questions for the Editors

Dean R Hess PhD RRT FAARC

Richard D Branson MSc RRT FAARC

An opportunity for persons in the audience to ask questions of the editors.

Tuesday, Nov 13

The Pursuit of Excellence: The Deployment of a Respiratory Care Practitioner as Part of a Disaster Team

9:05 am – 10:30 am

9:05 am – 9:45 am

Deployment as Part of an NDMS DMAT

Alan Roth MS MBA RRT-NPS FAARC, Modesto CA

Most RTs feel compelled to offer expertise and support during a disaster. For many, this inner desire results in the enrollment in a government DMAT. This presentation will provide an overview of the overall commitment required for participation on a DMAT. The presenter will describe the expanded skill set necessary for participation and the personal training and hardship required with a DMAT commitment.

9:50 am – 10:30 am

Respiratory Care Practitioners Working in Developing Countries

Alan Roth MS MBA RRT-NPS FAARC

This presentation will describe educational requirements necessary to train medical staff in developing countries. The presenter will highlight the integration of respiratory therapists into a non-governmental organization (NGO) care team. The lecturer will describe the necessary requirements for long-term mission planning and the need for cultural sensitivity specific to local customs. The presentation will also highlight the viewpoints and feelings of developing countries as to their wants, desires, and expectations of care teams traveling to their country.

Issues in Long-Term Care

9:05 am – 10:45 am

9:05 am – 9:35 am

Controlling Nosocomial Infections in the Post-Acute Care Setting

Eric Anderson RRT, Oak Harbor WA

This presentation will describe the process of using an existing acute care model to minimize nosocomial infections in a skilled nursing facility. Attendees will learn of mechanisms to track infection rates and introduce corrective measures to improve staff practices in multiple facilities.

9:40 am – 10:10 am

The Role of the "Middle Space" in Reducing 30-day Readmissions

Gene Gantt RRT, Livingston TN

There is a growing emphasis on preventing readmission in the 30-day period following acute hospital discharge and admission to a long-term facility. Strategies for identifying those newly admitted residents at highest risk for readmission and appropriate interventions will be presented. Useful tools will be shared on how to not only "red flag" patients at risk for recidivism, but how to care for them as well.

10:15 am – 10:45 am

Sustaining the Role of the RT in Sub-Acute Care

Joseph Kretz MBA RRT, Aldan PA

How will the role of the RT be impacted in the newly emerging health care system? Will they be looked upon less, or will more be expected? This presentation will discuss the expanding role of the entire post-acute care continuum and explain how RTs can make themselves indispensible in the sub-acute arena.

Pediatric Noninvasive Ventilation: Facts, Myths and Evidence

9:05 am – 10:55 am

9:05 am – 9:40 am

Indications for Noninvasive Ventilation

Peter Luckett MD, Dallas TX

The use of noninvasive ventilation in the pediatric population continues to increase, but why? Is there data to support this trend? If not, what is the clinical rationale behind it? This presentation will review the current indications for noninvasive ventilation in the pediatric population.

9:45 am – 10:20 am

Alternative NIV Modes: Ready for Primetime or Not?

Brian K Walsh MBA RRT-NPS FAARC, Dallas TX

Are alternative modes of noninvasive support really ready for primetime? Non-traditional strategies for noninvasive ventilation will be reviewed along with the available data. Are newer approaches to noninvasive support really indicated or just fancy marketing schemes? This presentation will provide a balanced review of this clinically relevant topic.

10:25 am – 10:55 am

Does the Benefit Outweigh the Risk?

Thomas J Cahill RRT, Erlanger KY

What are the real and potential risks/benefits for the noninvasive support of the pediatric patient? In which direction do the data point? This presentation will discuss the advantages and disadvantages of noninvasive ventilation for varying patient conditions.

Open Forums #17 and #18

9:30 am – 11:25 am

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Tuesday, Nov 13

Respiratory Care in Resource Limited Settings

9:50 am – 11:45 am

9:50 am – 10:15 am

The Vietnam, India, and Egypt Experience

Robert M DiBlasi RRT-NPS FAARC, Seattle WA

Come listen to the global accounts of unique opportunities to practice (and teach) respiratory care in resource limited countries like Vietnam, India, and Egypt. This presentation will discuss the approaches used in locations with limited access to trained therapists, respiratory support devices, and other aspects of medical care. Become inspired by these experiences and learn what you can do to assist those in need.

10:20 am – 10:45 am

The China Experience

Cynthia White RRT-NPS AE-C FAARC, Cincinnati OH

This presentation will discuss the impact of the AARC, ARCF, and the International Council on Global Development of the Respiratory Care Profession. A focus will be placed on the speaker's experience in Hangzhou, China. The audience will gain a greater appreciation for the respiratory care experience in a resource-limited region of the world.

10:50 am – 11:15 am

The Brazil Experience

Edward Leo Schneider RRT-NPS, Rochester MN and
Kristy Prihoda RRT, Rochester MN

This presentation will discuss the impact of the AARC, ARCF, and the International Council on Global Development of the Respiratory Care Profession. A focus will be placed on the speaker's experience in Brazil. The audience will gain a greater appreciation for the respiratory care experience in a resource-limited region of the world.

11:20 am – 11:45 am

Neonatal Respiratory Care "The Africa Experience"

Maneesh Batra MD MPH, Seattle WA

This presentation will discuss the impact of the AARC, ARCF, and the International Council on Global Development of the Respiratory Care Profession. A focus will be placed on the speaker's experience of over 10 years assisting a rural special-care nursery in Uganda. The audience will gain a greater appreciation for the respiratory care experience in a resource limited region of the world.

Driving PAP Adherence by Optimizing the Device Interface

10:05 am – 10:50 am

10:05 am – 10:25 am

Selecting the Best Mask: How to Choose from So Many Options

Bari L Griffin BSHS RRT, Chesapeake VA

Respiratory therapists everywhere know how important mask interface is to PAP compliance. This presentation will discuss strategies to select the most appropriate mask interface for PAP therapy patients and ways to improve sustained proper use over time. You won't want to miss this presentation if your patients are non-compliant with their therapy.

10:30 am – 10:50 am

Other Available Devices to Improve PAP Adherence

Bari L Griffin BSHS RRT

It's the job of the RT to educate patients and provide them with required resources to maximize PAP compliance. Are these tools limited to just mask design or interface, or are there other technologies available? The speaker will discuss other ancillary devices, including CPAP machines and specialized software that can be used to help reduce impediments to sustained PAP adherence.

Zip Line Leadership: Health Care Delivery Transformations

10:10 am – 10:40 am

Zip Line Leadership: Health Care Delivery Transformations

Stan Holland MS RRT FAARC, Harrisonburg VA

A zip line allows a person to move quickly from one point to another either under their own power or by gravity. As more healthcare reforms take effect, there is a critical need for RTs to quickly adjust current practices to accommodate evolving quality goals. Interdisciplinary collaboration can be the zip line that allows RT departments to take the risk of jumping out of their comfort zone while building momentum for necessary practice changes. Attend this lecture and learn from an experienced and successful RT manager who will share concrete examples of successful collaboration with other disciplines that have contributed to improved patient outcomes while enhancing patient safety. If you're seeking ways to thrive in this "brave new world," then grab hold of the zip line and hang on!

The Pursuit of Excellence

10:35 am – 11:25 am

The Role of Ethical Decision-Making in Multifaceted Emergencies

Shawna Strickland PhD RRT-NPS AE-C FAARC, Columbia MO

This lecture will describe the nuances involved in ethical decision-making in austere environments and critical care. This presentation will describe the ethics when emergency capacity surpasses human and capital resources. The presenter will describe new mindsets for such events when our medical background trains us to be resource intense. Tools used domestically and abroad will also be discussed that rely less on morality in the decision making process and more on the science.

Fireproof Leadership through Stewardship and Accountability

10:45 am – 11:15 am

Fireproof Leadership through Stewardship and Accountability

Stan Holland MS RRT FAARC, Harrisonburg VA

Leaders are developed by successfully resolving a myriad of challenges on a daily basis; they become tempered and are able to withstand great heat. This tempering, or fireproofing, gives them the ability to take a more global/systems approach to problem-solving through responsible planning and management of limited resources. Fireproof leaders develop win/win solutions that often involve unique approaches not limited to a single discipline or process. This presenter will walk us through the fires of change as he deals with the challenges of managing both the RT and the emergency departments.

Tuesday, Nov 13

Diagnosis and Management of Pulmonary Arterial Hypertension (PAH)
10:50 am – 11:30 am

Diagnosis and Management of Pulmonary Arterial Hypertension

Abby Poms RRT, Durham NC

Those attending this lecture will gain an understanding of the classification and diagnosis of PAH. The presenter will also discuss the management of PAH, including general and specific therapies and goals of care. It will conclude with an overview of resources available for RTs interested in the treatment and care of PAH.

Pediatric Acute Lung Injury
11:00 am – 11:40 am

Pediatric Acute Lung Injury

Peter Luckett MD, Dallas TX

Much attention is paid to the infant or child with acute lung injury in the acute care setting, but what happens to these patients beyond the critical care environment? This session will discuss the pulmonary and neurodevelopment outcomes for these pediatric patients. Specific discussion of the various aspects of acute care management on long-term outcomes will be considered.

Making the Most of Changes: A Survival Guide for Bedside RCPs
11:00 am – 11:50 am

Making the Most of Change: A Survival Guide for Bedside RCPs

Dana Evans MHA RRT-NPS AE-C, St Louis MO

Today's healthcare environment is one of fast paced change. Frequent, large changes can be difficult to understand, work with and adapt to. This presentation will review the components of change management programs and give insight into the manager's thought process. Why do individuals respond to change the way they do? Attend this presentation to find out!

AARC Uniform Reporting Manual
11:20 am – 12:00 noon

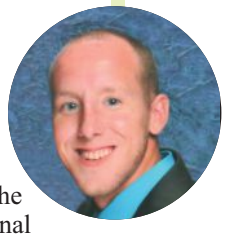
AARC Uniform Reporting Manual

Bill Dubbs MHA MEd RRT FAARC, Irving TX

The presenter will provide an overview of the recently revised URM, with regard to function, utility, and value for the RT director and respiratory therapy department. Every manager should have a URM on the bookshelf in their office. Attend this lecture to find out why.

Disease Management
11:30 am – 12:00 noon

A Unique Inside Look into the Life of a CF Patient: From the Patient and RRT Perspective



Jeremy Parks RRT, St Louis MO

Most healthcare professionals experience cystic fibrosis (CF) as a pulmonary disease from a caregiver's perspective and through the secondhand experiences of our patients. This presentation offers a unique look into the life of one of our RRT peers living with CF. It will provide insight into the meaning of living with CF as a patient and RRT, including the impact of molding your lifestyle around the disease. The speaker will discuss the impact of CF on patients, families, and respiratory care practitioners from a personal perspective. Attendees will have a valuable opportunity to hear insights, facts, myths, and expectations from firsthand experiences. This presentation will also highlight the impact and value of the excellent care provide by RCPs, including the gratitude and respect CF patients have for the respiratory care profession.

A Clinician's Guide to Individualizing the Ventilator Prescription

1:00 pm – 1:30 pm

A Clinician's Guide to Individualizing the Ventilator Prescription

David M Wheeler RRT-NPS, Cleveland OH

Individualized evidence-based care requires a formal set of constructs. This presentation will define and outline the concept of N of 1 care and the outcomes derived from individualized context bases and assessment driven care. Not sure what N of 1 is? Looking for an easier way to conduct group comparison studies? Attend this presentation and learn the art of mastering mechanical ventilatory support to one patient.

Idiopathic Pulmonary Fibrosis: Pathophysiology and Treatment

1:00 pm – 1:30 pm

Idiopathic Pulmonary Fibrosis – Pathophysiology and Treatment

Chris Garvey FNP MSN MPA AE-C FAACVPR, Daly City CA

RTs attending this presentation will learn of the unique challenges this patient population presents, especially with respect to maintaining adequate oxygenation. The presenter will discuss the important role of rehabilitation and more specifically, the role of the RT in caring for patients with this disease.

Pulmonary Diagnostic: New Wave Challenge Testing

1:00 pm – 1:30 pm

Mannitol Challenge Testing: What's New and Lessons Learned

Ellen Moran RRT RPFT AE-C, Chicago IL

Bronchial provocation testing uses a variety of direct and indirect inhalational challenges to evaluate airway hyperactivity. Mannitol is a simple, easy-to-administer hypertonic stimulus that has been recently approved by the FDA in the US. This lecture will explore the evidence in the use and clinical efficacy of this new method of challenge testing.

Pediatric Pulmonary Hypertension

1:00 pm – 1:55 pm

1:00 pm – 1:25 pm

Pulmonary Hypertension in the Pediatric Patient

Jenni Raake MBA RRT-NPS, Cincinnati OH

Respiratory therapists are well versed in the pathophysiology and treatment of PH. But is PH treated differently in the adult than it is in the pediatric population? This presentation will describe the current state of pulmonary hypertension in pediatric patients and discuss current and future treatments.

1:30 pm – 1:55 pm

Pulmonary Hypertension in the Neonatal Patient

Nancy Johnson RRT-NPS, Medina OH

Respiratory therapists are well versed in the pathophysiology and treatment of PH. But is PH treated differently in the adult than it is in the pediatric population… in neonates? This presentation will describe the current state of pulmonary hypertension in the neonatal population and discuss current and future treatments.

Tuesday, Nov 13

Patient Simulation for Respiratory Therapy

1:00 pm – 2:05 pm

1:00 pm – 1:30 pm

Overview of Clinical Simulation

Roberta Hales MHA RRT-NPS RN, Philadelphia PA

This presentation will provide an overview of clinical simulations. The participant will be able to discuss the role simulation holds for the future of RT education, both in the classroom and at the bedside. Included will be guidelines set by The Joint Commission and CoARC for designing simulation curriculum. Different methods of simulation will be discussed and how it can be used for RT training, competency assessment and skills acquisition.

1:35 pm – 2:05 pm

Performing a Needs Assessment for Your Institution

Roberta Hales MHA RRT-NPS RN

This presentation will discuss the importance of a needs assessment for implementation and use of clinical simulators. Participants will be able to identify key elements of the needs assessment and develop various topics for their collegiate or hospital program.

Managing Service Utilization

1:00 pm – 2:25 pm

1:00 pm – 1:40 pm

After "Fat Tuesday"

Suzan Herzig RRT, Alpine CA

Fat Tuesday… the last day of eating rich, fatty foods before one must fast for Lent. Fat Tuesday in healthcare is over and it's now time for the fasting to begin. With new healthcare mandates, we must find ways to cut the fat of operations in all aspects. Well-planned protocols can serve as armor for your department and the field of respiratory care. The speaker will share protocols and how they may protect your organization from fasting and protect quality patient care.

1:45 pm – 2:25 pm

So Where Do We Cut the Fat Without Cutting Services?

Richard M Ford RRT FAARC, San Diego CA

Reforms and pressure to reduce expenses remain a challenge for managers. Mandated reductions in expenses are common encounters as there are fewer margins available to support inpatient services. This presentation will include ideas from managers across the country in which costs have been reduced without compromising quality. Best practices will be shared so that attendees can apply like ideas in their workplace.

Open Forums #19 and #20

1:00 pm – 2:25 pm

Supported by an unrestricted educational grant from monaghan™

Researchers will present the results of their scientific studies. Abstracts with a similar focus are clustered into their own Open Forum symposium to encourage discussion and interaction among investigators and observers. Posters are used to expand the information presented.

Inhaled Gases

1:00 pm – 2:40 pm

1:00 pm – 1:30 pm

What's New with Heliox?

Robert M Kacmarek PhD RRT FAARC, Boston MA

Heliox has been around since the 1930s. There's no denying the clinical benefits it provides to patients with airway obstruction. But what does the current scientific literature state regarding this inhaled gas? Should doses remain the same, and are there benefits to new patient populations? This presentation will summarize the recent evidence related to the use of heliox, including patient selection and technical aspects of administration.

1:35 pm – 2:05 pm

Physiologic Benefits of Inhaled Carbon Monoxide

Paul F Nuccio MS RRT FAARC, Boston MA

Inhaled carbon monoxide is usually considered a toxic gas. However, recent experimental data suggest that low-dose carbon monoxide might have a clinical benefit. The lecture will discuss potential therapeutic benefits of inhaled carbon monoxide. Risks for this new experimental treatment will also be explored.

2:10 pm – 2:40 pm

Inhaled Pulmonary Vasodilators: Adult Applications

Robert M Kacmarek PhD RRT FAARC

While nitric oxide is not FDA-approved in the adult population, it is often used in an "off-label" capacity. This presentation will review the current literature in utilizing inhaled nitric oxide for adults in post cardiac surgery, pulmonary hypertension, and ARDS? What is the role of alternatives such as aerosolized prostacyclin? The costs may be cheaper, but is the benefit the same? Attend this presentation and get the answers to these and other questions.

Pulmonary Diagnostics: Special Studies Your Pulmonary Lab Should Consider

1:35 pm – 3:00 pm

1:35 pm – 2:15 pm

The ABCs of Performing a Shunt Study

Mary Jo Biebl-Yahnke RRT RPFT, Madison WI

The expansion of pulmonary diagnostic services is important in a cost-containment healthcare setting for survivability and growth. This is true for improved accessibility as well as increased revenue. This presentation will address patient populations usually considered for shunt studies, the procedure and equipment required, as well as the calculation of results and clinical significance.

2:20 pm – 3:00 pm

Breath Hydrogen Testing – Is This a Diagnostic Test Our Lab Should Offer?

Matthew J O'Brien MS RRT RPFT, Madison WI

Breath hydrogen testing is an exhaled breath test used to help determine malabsorption following ingestion of various sugars. An overview of equipment options, calibration, testing procedures and report generation will be covered. Learn how this GI requested diagnostic test could bolster your pulmonary lab to maintain its bottom line.

Tuesday, Nov 13

What Every Sleep Educator Should Know About…

1:35 pm – 3:10 pm

1:35 pm – 2:25 pm

Accreditation and Credentialing Pathways for Sleep Specialists

Thomas R Smalling PhD RRT RPFT RPSGT FAARC, Bedford TX

This presentation will describe the different pathways for completing an accredited sleep education program. Following this talk, attendees will be able to describe the different credentialing pathways available for program graduates and discuss the advantages/limitations of each pathway.

2:30 pm – 3:10 pm

Competency-Based Standards for Sleep Disorders Specialist Education

Thomas R Smalling PhD RRT RPFT RPSGT FAARC

Competency standards for hospital-based RTs are robust in nature; however, there are far fewer, with little evidence for the RT sleep technician. This presentation will describe the concept of competency-based standards as they relate to sleep and describe a process for identifying professional competencies in the sleep environment. The lecturer will also compare a sleep disorders program curriculum based on competencies to that of a curriculum based on tasks.

Considerations in Exercising Patients in Pulmonary Rehabilitation

1:35 pm – 3:15 pm

1:35 pm – 2:05 pm

Exercising the Patient with COPD

Debra Koehl MS RRT-NPS, Indianapolis IN

This presentation will address issues experienced during exercising patients diagnosed with COPD. A discussion of indications and contraindications for exercise in this population will be provided. The presenter will also identify oxygenation considerations, goals, techniques, protocols and outcomes associated with exercising this patient population. Is there a difference between exercising the patient with COPD from those with other pulmonary diseases? Attend this lecture to find out!

2:10 pm – 2:40 pm

Exercising the Patient with Pulmonary Hypertension

June Schulz RRT AE-C FAACVPR, Brandon SD

This presentation will address issues experienced during exercising patients diagnosed with pulmonary hypertension. A discussion of indications and contraindications for exercise in this population will be provided. The presenter will also identify oxygenation considerations, goals, techniques, protocols and outcomes associated with exercising this patient population. Is there a difference between exercising the patient with pulmonary hypertension from those with other pulmonary diseases? Attend this lecture to find out!

2:45 pm – 3:15 pm

Exercising the Patient with Pulmonary Fibrosis

Debra Koehl MS RRT-NPS

This presentation will address issues experienced during exercising patients diagnosed with idiopathic pulmonary fibrosis. A discussion of indications and contraindications for exercise in this population will be provided. The presenter will also identify oxygenation considerations, goals, techniques, protocols and outcomes associated with exercising this patient population. Is there a difference between exercising the pulmonary fibrosis patient from those with other pulmonary diseases? Attend this lecture to find out!

Quality Improvement for the RT in the NICU

2:00 pm – 2:55 pm

2:00 pm – 2:25 pm

Evidence-Based Medicine: Applying Evidence to Your Practice

Roger Soll MD FAAP, Burlington VT

This session will discuss how to critically evaluate a respiratory care intervention or therapy and how improper evaluation of interventions can lead to patient harm. Routine clinical care examples, including oxygen administration, high-flow nasal cannulae, intubations, and basic ventilator support will be discussed. Both case-based and unit-based examples will be highlighted.

2:30 pm – 2:55 pm

Reducing Chronic Lung Disease: Impact of Collaborative Quality Improvement

Roger Soll MD FAAP

This presentation will describe the process of multidisciplinary collaborative quality improvement with a specific focus on the potentially better practices that may reduce the risk of chronic lung disease in preterm infants. The talk will focus both on the process of quality improvement and the specific respiratory management practices that can minimize the risk of chronic lung disease.

Discharging a Vent-Dependent Patient to Home: Do You Think You're Ready?

2:10 pm – 3:45 pm

2:10 pm – 2:55 pm

Standing on the Precipice: What Do You Need to Know?

Gery Jeromin MA RRT LRT, Ann Arbor MI

This presentation will review best practices for discharging a ventilator-dependent patient to home. What is the role of the hospital-based RT? What is the role of the homecare RT? Those in attendance will be asked to participate through audience response technology by indicating their agreement or disagreement with selected processes and steps that the speaker will present.

3:00 pm – 3:45 pm

When Things Go Wrong: What Would You Do?

Angela King RPFT RRT-NPS, Leo IN

In spite of the best planning and intentions, home ventilation is still problematic and prone to mistakes. Are you confident in your ability to diagnose and correct issues when things go wrong? Are you confident in the ability of family and caregivers to do the same? Those in attendance will be asked to participate through audience response technology by indicating their agreement or disagreement with selected processes and steps that the speaker will present.

Tuesday, Nov 13

Disease State Management: Starting a Clinic-based RT Case Management

2:30 pm – 3:55 pm

2:30 pm – 3:10 pm

Reducing Readmissions with RT Interventions: A Decade of Success with COPD/Asthma RT Case Managers

Joe Dwan MS Ed RRT-NPS-SDS, Beavercreek OR

With changes in the healthcare landscape, many RT managers are considering value-added positions to better serve patients and decrease hospital readmissions. Unfortunately, many do not know what these roles and responsibilities look like, nor do they know how to set up a disease management program. This presenter will describe how to begin an adult asthma/COPD case management program. The lecture will also identify measurable outcomes including utilization rates, costs, physician, and patient satisfaction data.

3:15 pm – 3:55 pm

Preparing and Training Respiratory Therapists for the Skills Required in Outpatient Management

Mary Hart MS RRT AE-C FAARC, San Antonio TX

This presentation will describe the education and skill set required to convert an inpatient RT into a competent outpatient RT. Attendees will be able to identify skills that include modifying patient behaviors, accessing outpatient information, interdisciplinary communications, as well as referral resourcing, protocols, and documentation of outcomes.

Early Mobility in the ICU

2:45 pm – 3:35 pm

Early Mobility in the ICU

Carl Hinkson RRT FAARC, Seattle WA

Once thought of as blasphemy, ambulation of mechanically ventilated patients in the ICU is gaining momentum throughout the world. Deconditioning and weakness are problems common to survivors of critical illness requiring ventilator assistance. Does early ambulation of the mechanically ventilated patient help? This lecture will focus on the feasibility, safety, and benefits of early mobilization of mechanically ventilated patients in the ICU. Current literature will also be reviewed on this new and innovative treatment.

Managing the "Pediatric Adult" Patient

3:00 pm – 3:30 pm

Managing the "Pediatric Adult" Patient

Joel Brown RRT, Newark DE

Have you ever had an adult-aged patient who required pediatric ventilator settings and /or management strategies? Or what about the 40-year-old patient residing in the pediatric ICU because of a congenital heart disease at birth. This presentation will address some of the recurring concerns that arise when managing critically ill patients who do not fit the framework of standard pediatric care. Interactive case studies will be presented along with a review of the available evidence to highlight the key learning points.

Critical Care Transport and Intensive Care Issues in Pediatrics
3:05 pm – 4:30 pm

3:05 pm – 3:45 pm

Early Warning Signs in Pediatric Transport

Ami Brownlee RN CFN, Colorado Springs CO

The transport of critically ill pediatrics is a challenge even for seasoned transport personnel. Pediatric patients are not just little adults but an entirely different patient population. This lecture is designed to highlight early warning signs of potential decompensation in the pediatric patient. The lecture will utilize case scenarios of critically ill pediatric patients for illustration purposes.

3:50 pm – 4:30 pm

Non-Accidental Trauma in Pediatrics

Ami Brownlee RN CFN

This lecture will discuss presentation patterns of non-accidental trauma frequently encountered during transport and in emergency rooms and ICUs. Risk factors for non-accidental trauma will also be discussed, showcased with several case scenarios to illustrate patterns of injury, as well as causative factors leading to non-accidental pediatric trauma.

Negative Pressure Pulmonary Edema: Etiology, Prevention and Treatment
3:15 pm – 3:45 pm

Negative Pressure Pulmonary Edema: Etiology, Prevention and Treatment

Mark S Siobal RRT FAARC, San Francisco CA

Negative pressure pulmonary edema is an uncommon, potentially life threatening complication of upper airway obstruction. Onset and severity of pulmonary edema symptoms can be immediate or delayed. This lecture will review the distinction between other forms of pulmonary edema, describe the most typical causes, examine several unusual etiologies, and review interventions for prevention and treatment.

Adding Value to Your Department: The Problem, the Plan and the Answer
3:15 pm – 4:40 pm

3:15 pm – 3:55 pm

New Roles for RTs: Improving Quality and the Bottom Line

Thomas R Lamphere RRT RPFT, Sellersville PA

Traditional roles of RTs find them working in acute care hospitals. In today's economy, hospitals are facing severe economic challenges that sometimes result in the loss of RT positions. There are, however, other care venues that have been demonstrated the ability to provide care in a less expensive manner and have shown job growth for RTs in untraditional roles. Attendees will leave this presentation with knowledge, intuition, and know-how on how to improve quality and the economics of their department by creating new roles and responsibilities for their staff. A "can't miss" presentation for the manager needing to cut costs while adding value to their department.

4:00 pm – 4:40 pm

Selling the Sizzle: How to Communicate the Value of Untraditional Roles to the C-Suite

Mary Lou Guy MBA RRT CHT, Kansas City MO

How many times have you gone to the C-suite asking for something and not come away with a firm "yes"? Do you know what it is that hospital administrators look for when making decisions that affect the bottom line? Do you have the skills to close out a sales pitch when the stakes are high? Don't miss out on this great opportunity to hear from a seasoned RT manager skilled in the art of selling value and services to hospital administrators. This presentation will address key components of developing a business plan and where to get supporting financial data to support your case. Finally, the lecturer will discuss the art of "the sale," how to frame your conversation with administrators and close the deal.

Tuesday, Nov 13

How a Respiratory Therapist Can Drive Health Systems Change and Improve Quality

3:20 pm – 4:00 pm

How a Respiratory Therapist Can Drive Health Systems Change and Improve Quality

Dawn Aberle RRT CTTS AE-C, Fargo ND

This presentation will review North Dakota's use of tobacco-control dollars and establishment of the Center for Tobacco Prevention and Control Policy. The speaker will also provide a case example of Sanford Health's use of a 0.5 FTE grant-funded position to implement a variety of tobacco-control policies and improvement. Outcomes from these programs will be shared with attendees.

Post-Acute Care: Where Are Our Vent-Dependent Patients Going?

3:35 pm – 4:40 pm

3:35 pm – 4:05 pm

Pediatric Patients

Thomas J Cahill RRT, Erlanger KY

This presentation will discuss how hospital-based RTs can collaborate with entities outside the hospital to determine the best platform for pediatric ventilation outside of the acute care arena. Should the pediatric ventilatory patient be treated as a small adult? What are the risk factors for this patient population once they leave the hospital? The presenter will detail best practices on how to maximize the safety of this fragile patient population.

4:10 pm – 4:40 pm

Adult Patients

Ronda Bradley MS RRT, St Louis MO

This presentation will discuss how hospital-based RTs can collaborate with entities outside the hospital to determine the best platform for pediatric ventilation outside of the acute care arena. Should adult patients be treated differently than their pediatric counterparts? What are the risk factors for this patient population once they leave the hospital? The presenter will detail best practices on how to maximize the safety of this patient population.

Hot Topics in Disaster Management

3:40 pm – 5:05 pm

3:40 pm – 4:20 pm

Explosion/Blast Injuries; Mechanisms & Treatment

Joe Hylton RRT-NPS NCEMT-B FAARC, Charlotte NC

Most hospitals like to think they're prepared for an internal or external disaster, but are they really? Can you really be prepared if you've never gone through a "live" incident? This lecture will discuss mechanisms of disaster and injuries associated with explosion/blast trauma. Emphasis will be placed on prehospital/transport management strategies and critical care support. Is your hospital ready for this type of disaster? Are you ready? Attend this presentation to find out.

4:25 pm – 5:05 pm

Mass Casualty Burn Care

Keith Lamb RRT, Newark DE

Most hospitals like to think they're prepared for an internal or external disaster, but are they really? Can you really be prepared if you've never gone through a "live" incident? This lecture will discuss mechanisms of disaster and injuries associated with burns: fire and chemical. Emphasis will be placed on prehospital/transport management strategies and critical care support. Is your hospital ready for mass casualty burn care? Are you ready? Attend this presentation to find out.

Ultrasound for the Respiratory Care Practitioner

3:50 pm – 4:40 pm

Ultrasound for the Respiratory Care Practitioner

Andrew Miller RRT, Durham NC

There is a plethora of literature supporting the use and clinical application of bedside ultrasonography. This presentation will review the clinical applications of bedside ultrasound, focusing on its use for vascular access, airway management, bedside diagnostics and assessment of lung aeration. Untraditional roles for the RT will be discussed.

AARC's Hospital-to-Home Initiative: an Update

3:50 pm – 4:55 pm

3:50 pm – 4:20 pm

So, What Have We Learned So Far?

Greg Spratt CRT CPFT, Philadelphia MO

This presentation will provide an update on the impact of the initiative to more closely align the home care and hospital RTs to improve the transition of care for COPD patients.

4:25 pm – 4:55 pm

What Have We Learned From Our Patients?

Nicholas Macmillan AGS RRT FAARC, Stevensville MD

The speaker will present the results of a patient survey conducted as a part of the Hospital-to-Home initiative.

Asthmania Academy: A Successful Asthma Education Program Model

4:05 pm – 4:55 pm

Asthmania Academy Successful Asthma Education Program Model

Michael Shoemaker RRT-NPS AE-C, Anderson SC

This presentation will describe an asthma education program model that can not only improve outcomes, but can be replicated. These patient and community-focused programs offer opportunities for RTs to pursue reimbursement for disease management education. Are you seeking opportunities to better serve your asthma population? Attend this lecture and learn how to set up your own program.

CONGRESS 2012

New Orleans, LA • Nov. 10-13

REGISTRATION POLICIES

- American Express, MasterCard, and VISA are the only credit cards accepted.
- Members who have paid the current year's dues and are in good standing or whose applications are in process will be admitted at the member rate.
- Members registering on-site will be required to present their current membership card. Any person who does not present a current membership card must register at the non-member rate.
- All students will be required to pay a registration fee. AARC members with student status can register at the student rate. Students who are not members of the AARC are required to pay the non-member student rate. Non-member students cannot register online. Print the form and fax, mail, or bring on-site.
- An active member is not permitted to register as an exhibitor or to assist in a booth unless he/she is an employee of the exhibiting firm.
- Spouses may register for the Congress on-site only. Any logical proof indicating that the person is a member's spouse will be accepted.
- Advance registration fees must be prepaid. No invoice will be issued. An acknowledgement will be made of the fee paid.
- **Refund requests must be in writing and must be received by Oct 22, 2012.** A fee of 35% will be deducted from the refund to cover processing. No refunds will be made after **October 22**.
- No soliciting from exhibitors and attendees is permitted without AARC permission.

Registration and Fees

REGISTRATION FEES (SEE NEXT PAGE FOR THE FORM)

*You may become an AARC Member prior to registering (www.aarc.org). If you opt to pay the non-member fees below, you are entitled to a complimentary 12-month AARC membership.

Congress	By Sept 28	After Sept 28 And On-site 4 Days
AARC Active/Associate	$375	$405
AARC Student Member	$160	$175
Non-member Student	$215*	$225*
Non-member	$505*	$525*

Active Duty Military

We have a special offer for all health care professionals, not just respiratory therapists, on active duty in all branches of the US armed forces, as well as military reservists recalled to active duty. Go to www.aarc.org/member_services/military/congress.htm.

Pre-Congress Course #1 — Patient Safety Starts With You
Friday, Nov 9, 2012

Course capacity is limited. Pre-registration is required. Deadline: Oct 22, or when the course is full. You must attend the entire course to receive CRCE credit; no partial credit will be given. *The Patient Safety Course and Mechanical Ventilation Course run concurrently; you may register for only one.*

By Sept 28	AARC Member	Non-member
Course only	$190	$305*
If registered for Congress	$80	$130*

Sept 29–Oct 22	AARC Member	Non-member
Course only	$225	$340*
If registered for Congress	$115	$165*

Pre-Congress Course #2 — Mechanical Ventilatiion 2012
Friday, Nov 9, 2012

Course capacity is limited. Pre-registration is required. Deadline: Oct 22, or when the course is full. You must attend the entire symposium to receive CRCE credit; no partial credit will be given. *The Patient Safety Course and Mechanical Ventilation Course run concurrently; you may register for only one.*

By Sept 28	AARC Member	Non-member
Course only	$190	$305*
If registered for Congress	$80	$130*

Sept 29–Oct 22	AARC Member	Non-member
Course only	$225	$340*
If registered for Congress	$115	$165*

Online Registration

If you are using a credit card, go to www.AARC.org.

Faxed or Mailed Registrations

Complete the Registration Form and mail or fax it to the AARC. Details are on the form.

Receipts

A receipt for your registration fee(s) will be sent to you prior to your departure for New Orleans, LA. Present the receipt on-site to receive your name badge and registration packet(s).

On-site Congress Registration Hours

Friday—11/9	10 am–6 pm
Saturday—11/10	7 am–4 pm
Sunday—11/11	7:30 am–4 pm
Monday—11/12	8 am–4 pm
Tuesday—11/13	8 am–12 noon
	8 am–6 pm CRCE assistance available

You can fill out the Registration Form and bring it with you for on-site registration.

AARC Congress 2012 Registration Form

November 10–13, 2012 • New Orleans, Louisiana, USA

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

or MAIL: ***Send this form to: AARC Congress 2012, 9425 N. MacArthur Blvd. Ste. 100, Irving, TX 75063-4706 U.S.A. Full payment must be included with your registration form.***

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

One person per form. No invoices will be issued. Cancellations must be in writing. There will be a 35% handling fee for cancellations received by October 22, 2012. No refunds will be made thereafter.

PLEASE PRINT INSIDE THE BOXES

AARC Member # ***Membership Expiration Date*** ***Daytime Telephone (if international, include country code)***

First and Last name as you want them to appear on your name badge. DO NOT include credentials here.

Employer

Preferred Mailing Address (write address below, but first indicate if this is your home or business address) ☐ ***Home Address*** ☐ ***Business Address***

City (and Country if outside US) ***State*** ***Zip/Postal Code***

E-Mail Address _____ @ _____

CREDENTIAL ***(check three to be printed after your name)***: ☐ RRT ☐ CRT ☐ MD ☐ RN ☐ Other _____

JOB RESPONSIBILITY *(check one)*: ☐ Dept. Director ☐ Supervisor ☐ Therapist ☐ Educator ☐ Other _____

EMPLOYMENT SETTING *(check one)*: ☐ Hospital ☐ School ☐ Skilled Nursing Facility ☐ Subacute Care ☐ Home Care ☐ HMO ☐ Home Health Agency ☐ Manufacturer/Supplier ☐ Other _____

CONGRESS REGISTRATION

Payment of appropriate fee entitles registrant to attend all Congress activities and social events Nov 10-13. Spouses register on-site only.

CHECK ONE:	*By Sept 28*	*After Sept 28 (and on-site 4-Days)*
AARC Active/Associate Member	☐ $375	☐ $405
AARC Student Member	☐ $160	☐ $175
Non-member Student	☐ $215	☐ $225
Non-member*	☐ $505	☐ $525

*You may become a Member prior to registering by going to www.AARC.org. If you opt to pay the Non-member fee, you are entitled to complimentary, automatic 1-year AARC membership. Check here ☐ if you **DO NOT** wish to receive this complimentary AARC membership.

Check enclosed for $_____ or Charge $_____ to my
☐ **American Express** ☐ **MasterCard** ☐ **VISA**

Card Holder Name (print) _____

Credit Card # _____

Expiration Date_____ Signature_____

Educational Sessions will be electronically recorded by the AARC. By attendance or participation in discussion, registrant agrees that the AARC may electronically record, copy, and distribute registrant's attendance and involvement in the program discussions and question-and-answer periods. **No individual or entity other than the AARC may record (audio or video) any portion of this program.**

OFFICE USE ONLY: ☐ BC ☐ PC ☐ C ☐ CC

Total Received _____ Check # _____ Date _____

PATIENT SAFETY

Friday, Nov 9, 2012 • New Orleans, LA

Course capacity is limited. Pre-registration is required.
Deadline: Oct 22, 2012 or when course is full.
Pre-courses run concurrently. You may register for only one.

	AARC Member	Non-member
By Sept 28		
Course Only	☐ $190	☐ $305*
With Congress Reg	☐ $80	☐ $130*
Sept 29–Oct 22		
Course Only	☐ $225	☐ $340*
With Congress Reg	☐ $115	☐ $165*

MECHANICAL VENTILATION 2012

Friday, Nov 9, 2012 • New Orleans, LA

Course capacity is limited. Pre-registration is required.
Deadline: Oct 22, 2012 or when course is full.
Pre-courses run concurrently. You may register for only one.

	AARC Member	Non-member
By Sept 28		
Symposium Only	☐ $190	☐ $305*
With Congress Reg	☐ $80	☐ $130*
Sept 29–Oct 22		
Symposium Only	☐ $225	☐ $340*
With Congress Reg	☐ $115	☐ $165*

SITE AND HOTELS INFORMATION

Convention Site/Co-Headquarters Hotels

All official Congress lectures and exhibits, unless otherwise noted, will take place at the Ernest N. Morial Convention Center, 900 Convention Center Boulevard, New Orleans, LA 70130.

The co-headquarters hotels are the JW Marriott New Orleans and the New Orleans Marriott. The Opening Reception and the Sputum Bowl Finals will be held at the New Orleans Marriott.

1. **JW Marriott New Orleans – Co-Headquarters**
   614 Canal Street
   New Orleans, LA 70130
   $184.00 Single/Double**

2. **New Orleans Marriott – Co-Headquarters**
   555 Canal Street
   New Orleans, LA 70130
   $169.00 Single/Double***

3. **Courtyard Convention Center New Orleans**
   300 Julia Street
   New Orleans, LA 70130
   $159.00 Single/Double*

4. **Courtyard Downtown St. Charles New Orleans**
   124 St. Charles Avenue
   New Orleans, LA 70130
   $159.00 Single/Double*

5. **Marriott Convention Center New Orleans**
   859 Convention Center Boulevard
   New Orleans, LA 70130
   $184.00 Single/Double**

6. **Renaissance Arts New Orleans**
   700 Tchoupitoulas Street
   New Orleans, LA 70130
   $179.00 Single/Double*

7. **Residence Inn at the Convention Center New Orleans**
   345 Saint Joseph Street
   New Orleans, LA 70130
   $164.00 Single/Double*

8. **SpringHill Suites New Orleans**
   301 Saint Joseph Street
   New Orleans, LA 70130
   $164.00 Single/Double*

* *Plus a $1.00 per room per night city occupancy fee.*
** *Plus a $2.00 per room per night city occupancy fee.*
*** *Plus a $3.00 per room per night city occupancy fee.*

Single/Double represents occupancy and not bed type. The rates above are plus 13% tax, plus occupancy fee per night.

Shuttle Service

Shuttle service will be provided during the day starting Friday, Nov 9 between these hotels and the convention center: JW Marriott (#1), New Orleans Marriott (#2), Courtyard St. Charles (#4) and Renaissance Arts (#6). Shuttle service will be provided Saturday evening for the Opening Reception and Monday evening for the Sputum Bowl Finals between these hotels and the New Orleans Marriott: Courtyard Convention Center (#3), Marriott Convention Center (#5), Renaissance Arts (#6), Residence Inn Convention Center (#7) and SpringHill Suites (#8).

Access Code for Reservations

Attendees must use the Access Code **IRC12A** to make a reservation. Exhibitors must obtain their Access Code from Annette Phillips at **aphillips@aarc.org.**

Housing Reservation Form

Instructions

Reservations can be made by choosing one of the following methods:

Online: www.AARC.org

Phone: 800-424-5250 or 847-996-5880, M-F 8 am – 5 pm Central Time

Fax: (888) 772-1888 (USA) or (301) 694-5124 (International)
One room request per form

Mail: AARC Housing Bureau
P.O. Box 4088
Frederick, MD 21705-4088
One room request per form

Deadlines

To receive the special Congress rates book your reservations through the AARC Housing Bureau by **Tuesday, Oct 16, 2012**. Though reservations can be booked after Oct 16, 2012, AARC cannot guarantee discounted rates and availability at the conference hotels. **Do not send the housing form to the AARC Executive Office or individual conference hotels; it will delay processing your request.**

Confirmations

Confirmations will be sent after each reservation booking, modification, or cancellation. Review it carefully for accuracy. If you do not receive a confirmation via e-mail within 5 business days after any transaction, please contact the Housing Bureau via the fax number above or e-mail AARC@experient-inc.com. You will not receive a written confirmation from the hotel.

Guarantee

All hotels require a credit card guarantee of one night's room and tax with each reservation request. Housing forms received without a valid credit card will be returned without being processed. Credit cards must be valid through Nov 30, 2012 in order to be considered a proper guarantee. NO CASH OR CHECK DEPOSITS ARE ACCEPTED. If you need assistance with setting up special billing, please send e-mail to **AARC@experient-inc.com.**

Changes/Cancellation

Please contact the AARC Housing Bureau with new reservations, changes or cancellations through October 16, 2012. No changes or cancellations can be made between Oct 17 and Oct 21 while the reservations are transferred to the hotels. Starting October 22, direct all changes to the designated hotel.

Any cancellation received less than 72 hours from date of arrival is subject to one night's room and tax penalty charged by your confirmed hotel.

Your confirmed hotel may assess an early departure fee for departure date changes after check-in.

MAKE A COPY OF THIS FORM FOR YOURSELF

Arrival Date:_____/_____/_____ **Departure Date:**_____/_____/_____

Hotel Selection: (Please number the hotels in order of preference)

_____**JW Marriott New Orleans –** Co-Headquarters

_____**New Orleans Marriott –** Co-Headquarters

_____**Courtyard Convention Center**

_____**Courtyard Downtown St. Charles**

_____**Marriott Convention Center**

_____**Renaissance Arts**

_____**Residence Inn at the Convention Center**

_____**SpringHill Suites**

AARC CONGRESS 2012
The 58th International Respiratory Convention & Exhibition

Reservations will be processed on a first come, first served basis. If all hotels are unavailable, comparable reservations will be made at another participating hotel. Please process this reservation according to (please check one):

- ❑ Comparable room rate
- ❑ Proximity to conference site
- ❑ Do not process this reservation and advise of alternatives

Check one:
Attendee: _____ Exhibitor:_____
Access Code (required to process your reservation):_____
Room Type: (required)
Number of people in room:_____ Number of beds in room (one or two):_____
Special Requests: ____ ADA ____ Other:_____
All Marriott brand hotels are smoke free. Hotels will assign specific room types upon check in, based upon availability. Requests are not guaranteed.
List all occupants in room: (include yourself)
1_____ 2._____
3. _____ 4._____
Hotel Rewards #: _____

Send Confirmation to: (Fill out this portion completely)

Last:_____First:_____
E-mail Address:_____
Company:_____
Address:_____
City:_____State:_____Postal Code:_____
Country:_____
Phone:_____Fax:_____

Payment Information: All hotels require a valid credit card guarantee of one night's room and tax with each reservation request. Credit cards must be valid through Nov 30, 2012.

Type of Card:
_____American Express _____Visa _____Discover
_____MasterCard _____Other_____
Account Number:_____
Exp. Date:_____
Card Holder Name (Print):_____
Signature:_____

AARC Congress 2012

TRAVEL DISCOUNTS/NEW ORLEANS INFORMATION

Discounts are offered to AARC Congress attendees, exhibitors, family members and friends.

AIRPORT

Louis Armstrong New Orleans International Airport (MSY) is approximately 10 miles from downtown New Orleans.

AIRLINES

AMERICAN AIRLINES

- **Online** at www.aa.com. Enter 88N2AZ in the Promotion Code box (no booking fee).
- **Call,** or have your travel agent call, AA Meeting Services at 800-433-1790 and refer to Authorization Code A88N2AZ (booking fee added).

DELTA AIR LINES

- **Online** at www.delta.com. Scroll over "Planning Tools" and drop down to "Book a Flight." Enter NM8VC in the Meeting Event Code box (no booking fee).
- **Call**, or have your travel agent call, Delta Meeting Network at 800-328-1111. Refer to Ticket Designator NM8VC (booking fee added).

UNITED AIRLINES

- **Online** at www.united.com. Enter ZM83628224 in the Offer Code box (receive an additional 3% off and no booking fee).
- **Call** or have your travel agent call, United Meeting Works at 800-426-1122. Refer to Z code ZM83 and Agreement Code 628224 (booking fee added).

CAR RENTAL

BUDGET RENT A CAR

- **Online** at www.budget.com. Click on the "Use an Offer Code" box. Enter U064639 in the BCD box.
- **Call,** 800-772-3773. Refer to Discount Offer Code U064639.

ENTERPRISE RENT-A-CAR

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

HERTZ RENT-A-CAR

- **Online** at www.hertz.com. Enter 049T0006 in the Convention Number (CV) discount box.
- **Call,** 800-654-2240 or 405-749-4434. Refer to Convention Discount Code 049T0006.

GROUND TRANSPORTATION

There are a variety of ground transportation options between Louis Armstrong New Orleans International Airport and the hotels. Go here to see various ground companies: **http://www.flymsy.com/PageDisplay.asp?p1=6016#PublicTransit**

AIRPORT SHUTTLE is offering a $3 discount for roundtrip reservations made only online at **http://airportshuttleneworleans.hudsonltd.net/res?USERIDENTRY=AARC1112&LOGON=GO.** Advance reservations required.

NEW ORLEANS INFORMATION

Be sure to check out all of the things to see and do in New Orleans at **http://www.neworleanscvb.com/aarc/.**

A Salute to our 2012 Corporate Partners

AMERICAN ASSOCIATION FOR RESPIRATORY CARE
AARC
CORPORATE PARTNER

CareFusion

Masimo

COVIDIEN

monaghan

PHILIPS RESPIRONICS

Dräger

imagination at work

MAQUET GETINGE GROUP

Kimberly-Clark

Tri-anim

Teleflex

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

The link between the respiratory profession and manufacturers is clear. If respiratory practice expands, so too does the economy for our industry partners.

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

AARC Congress

CONGRESS 2012

A
ADVANCE Media, Marketing and Merchandise
Aerogen
AG Industries
Air Lift & CareFore Medical
Airborne Life Support Systems/VIA Medical
Airgas, Inc.
Airon Corporation
AirSep Corporation
Airtraq LLC
Alere, Inc.
Allied Healthcare Products, Inc.
Alpha-1 Foundation
ARC Medical, Inc.
Aureus Medical Group

B
Baitella AG
Bard Access Systems
Barnes-Jewish Hospital
Bay Corporation
Beevers Manufacturing & Supply
Besmed Health Business Corp.
Bio-Med Devices, Inc.
BLS Systems Limited
Board of Registered Polysomnographic Technologist
Boehringer Ingelheim Pharmaceuticals, Inc.
Boston Scientific
Breathe Technologies, Inc.
Bunnell Incorporated

C
Cadwell Laboratories, Inc.
CAIRE SeQual
CareFusion
Children's Hospital Los Angeles
Children's Medical Center Dallas
Circadiance
Clement Clarke International
Clippard
CoARC
Contec Medical Systems Co., Ltd
ContinuingEducation.Com
Cooper Surgical
Cornerstone Therapeutics
COSMED USA, Inc.
Covidien

D
Discovery Laboratories, Inc.
Draeger Medical

E
EKOM spol. s r.o.
Electromed, Inc.
Elsevier
Epiphany Cardiography Products
Excelsior College

F
Fisher & Paykel Healthcare, Inc.
Flight Medical
Foremount Enterprise Co., Ltd
Forest Pharmaceuticals, Inc.

G
GaleMed Corporation
GCX Corporation
GE Healthcare
General Biomedical Service, Inc.
General Physiotherapy, Inc.
Goldstein & Associates Inc.
Grifols

H
Hamilton Medical, Inc.
Hill-Rom
Hollister Incorporated

I
Ikaria
Impact Instrumentation, Inc.
Independence University
IngMar Medical, Ltd
Inova Labs, Inc.
Instrumentation Industries
Instrumentation Laboratory
International Biophysics Corporation
Intersurgical
Invacare Corporation
IPI Medical Products

J
Jones & Barlett Learning

K
KARL STORZ Endoscopy-America, Inc.
Kettering National Seminars
Kimberly-Clark
KOL Bio-Medical Instruments, Inc.

L
Lakeland Regional Medical Center
Lambda Beta Society

M
MAQUET Medical Systems, USA
Marpac
Marsh US Consumer
Masimo
Maxtec
MEDGRAPHICS
MediServe
Medline Industries, Inc.
MedSpace Exploration
Mercury Medical
Methapharm
Michigan Instruments
MIR-Medical International Research
Monaghan Medical Corporation
Monet Medical, Inc.
Mylan Inc.

N
National Asthma Educator Certification Board (NAECB)
National Board for Respiratory Care, Inc. (NBRC)
ndd Medical Technologies
NeoForce Group
Neotech Products
Nonin Medical, Inc.
Northstar Learning
Nova Biomedical
Nova Southeastern University
Nspire Health, Inc.

O
Omnimate Enterprise Co., Ltd
Onmeotech
OPTI Medical Systems, Inc.
Oricare, Inc.

2012 Exhibitors

P
Parker Medical
Parker Precision Fluidics Division
Passy-Muir Inc.
Patient Shield Concepts
Percussionaire Corporation
Philips Respironics
Portescap
Praxair Healthcare Services
Precision Medical
Pulmodyne Inc.

R
Radiometer America Inc.
RemZzzs
ResMed
Respiralogics
Respirtech
RMS Medical Products
Roche Diagnostics
RT/Sleep Review

S
Salter Labs
Sentec by Master Distributor
Bemes, Inc.
Siemens Medical Solutions, USA, Inc.
SleepNet Corporation
Smiths Medical
Spiration, Inc.
Swisslog Healthcare Solutions

T
Teleflex
Thayer Medical
Tri-anim Health Services
TSI, Inc.

U
UCLA Health System
University of Virginia

V
Vapotherm, Inc.
Verathon Medical
Vision-Sciences, Inc.
Vitalograph Inc.
Vortran Medical Technology 1, Inc.

W
Westmed
Wexner Medical Center at The Ohio
State University

Z
Zoll Medical Corporation

Exhibit Hours

Saturday, Nov 10
11 am – 4 pm

Sunday, Nov 11
11 am – 4 pm

Monday, Nov 12
11 am – 4 pm

Exhibitors list as of August 8, 2012

Industry Watch

Ziopharm doses first patient in clinical trial

Ziopharm Oncology Inc. has dosed the first patient in its Multicenter Adaptive Trial Investigating Small cell lung cancer Survival Endpoints, or "MATISSE," study. The Phase III open label, randomized trial will examine the effects of palifosfamide for the treatment of small cell lung cancer. Investigators plan to enroll up to 548 chemotherapy naive patients with extensive stage disease.

Kimberly-Clark bestows HAI Watchdog Awards

Kimberly-Clark Health Care has announced the recipients of its second annual HAI Watchdog Awards, created to recognize the efforts of health care professionals working together to prevent healthcare-associated infections. The awards program, an initiative of the HAI Watchdog Community, facilitates the sharing of best practices among clinicians and recognizes four exceptional participants with an educational grant. This year's winners include Mary Black Memorial Hospital in Spartanburg, SC, which was recognized for developing a Ventilator Bundle Monitor — a form and protocol designed to monitor mechanically ventilated patients that resulted in only one VAP incident in 2011. Other winners are Barnes-Jewish Hospital in St. Louis, MO; the Michael E. DeBakey VA Medical Center in Houston, TX; and Hallmark Health System in Medford, MA.

Seegene announces development of new molecular assay

Seegene Inc. has developed a new molecular assay for the quantification of 21 respiratory viral pathogens associated with respiratory disease. The company says QuantPlex RV-16 Assay will give physicians the specific information they need to guide patient treatment decisions. "Respiratory viral load quantification contributes to the rapidly growing field of diagnostic molecular virology, as well as advances the interpretation of real-time PCR (polymerase chain reaction) results in various clinical contexts," Seegene Founder, CTO, and CEO Dr. Jong-Yoon Chun was quoted as saying. "Using these types of tests, clinicians will be able to expand the questions that can be asked about a patient's illness, thereby enhancing physicians' ability to provide accurate and data-driven decisions for their patients."

Human Microbiome Project investigators publish results

A consortium of researchers organized by the National Institutes of Health to oversee the Human Microbiome Project (HMP) has mapped the normal microbial make-up of healthy humans. "HMP created a remarkable reference database by using genome sequencing techniques to detect microbes in healthy volunteers," NIH Director Francis S. Collins, MD, PhD, was quoted as saying. "This lays the foundation for accelerating infectious disease research previously impossible without this community resource." Results of the research appeared in several major journals in June.

Boehringer Ingelheim conducts tiotropium study in adolescents

According to Boehringer Ingelheim, results from a Phase II study evaluating the investigational compound tiotropium delivered once-daily via the Respimat® Inhaler in adolescents with symptomatic, moderate persistent asthma showed a statistically significant increase in lung function with 5 micrograms of tiotropium administered once daily. The data were presented at the recent American Thoracic Society meeting. The company also announced that a comprehensive confirmatory Phase III trial program called UniTinA-asthma™ is ongoing to fully evaluate the potential of the long-acting bronchodilator in the treatment of asthma in pediatric, adolescent, and adult patients.

iSonea app helps asthma patients stay on track

iSonea Ltd. has launched a new asthma management smartphone app called AsthmaSense™ that's available for iPhone,

iPad, and Android users. AsthmaSense is based on the patient's asthma action plan and includes active reminders to ensure the patient is tracking to the plan. The app allows patients to record and track symptoms, lung function tests, asthma events, and medications, and provides interactive medication and testing reminders.

Kalorama reports robust market for health care apps

According to Kalorama Information, the market for health care-related software apps for use in mobile devices has grown and will continue to grow quickly. The findings in a new report from the health care market research publisher show the market for mobile medical apps was worth about $150 million in 2011. Although they currently make up just 1–2% of the entire market for mobile apps, Kalorama finds health care apps will grow 25% annually over the next five years, outpacing the 23% growth estimated for the standard apps market.

ApniCure receives FDA clearance for new OSA treatment

According to ApniCure, the FDA has granted the company 510(k) clearance to market its Winx™ Sleep Therapy System in the United States. The Winx system uses a proprietary platform technology called Oral Pressure Therapy, a light, oral vacuum delivered by a quiet console through a slim tube connected to a soft, flexible mouthpiece. The mouthpiece and vacuum work together to gently pull the soft palate forward and stabilize the tongue, increasing the size of the airway and allowing for natural breathing to occur during sleep without the use of a mask. "The Winx system is a first-of-its kind, patient-friendly treatment option for OSA patients," Steve Carlson, president and CEO of ApniCure, was quoted as saying. "We anticipate a commercial launch of the Winx system in select U.S. markets this year, with broader distribution in 2013."

Study supports the effectiveness of Masimo acoustic sensor

A study published in the May issue of the *British Journal of Anaesthesia* demonstrates that Masimo's acoustic respiration rate (RRa™) from rainbow® Acoustic Monitoring provides similar respiration rate accuracy as capnometry for extubated patients. The study, which was conducted in France, compared the accuracy of RRa (Masimo Rad-87® with rainbow Acoustic Sensors) and capnometry using a face mask in 52 post-surgical patients in the post-anesthesia care unit. The investigators concluded that: "The acoustic sensor was well tolerated while the face mask was removed by eight patients, leading to study discontinuation in two patients. The device appears to be well-tolerated and no more subject to error than capnometry."

Phase 2b results in for COPD drug

Elevation Pharmaceuticals Inc. has announced positive results from a Phase 2b study of its EP-101 aerosol therapy in patients with COPD. After seven days, patients with moderate to severe COPD treated with EP-101 had a clinically meaningful and statistically significant improvement in lung function versus placebo. EP-101 is a proprietary inhalation solution formulation of glycopyrrolate, a long-acting muscarinic antagonist delivered by a proprietary investigational eFlow® nebulizer device licensed from PARI Pharma GmbH.

Praxair and Vapotherm sign multi-year agreement

Praxair Inc. and Vapotherm Inc. have signed a multi-year marketing and distribution agreement for the sale and distribution of a new heliox delivery system to hospitals in North America, Latin America, Spain, and Portugal. The companies will provide hospitals with Vapotherm's Precision Flow® heliox system, which was recently cleared by the FDA and is the first fully integrated high-flow therapy device for noninvasive delivery of heliox via nasal cannula. The device will be offered for use in combination with Praxair's Medipure™ heliox gas and a new proprietary gas cart system for convenient delivery at the point of care.

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

RC Currents

IN THE NEWS

AARC Supports Repeal of Device Tax

The medical device tax included in the Affordable Care Act (ACA) has the potential to significantly affect both respiratory patients and respiratory manufacturers, and the AARC is going on record in support of its repeal in a new letter sent to Congress. (View the letter of support at www.aarc.org/headlines/12/07/device_tax/letter.pdf)

The AARC's primary concern is that equipment manufacturers who are required to pay the tax will pass the cost of the tax on to consumers. Many pulmonary patients who purchase respiratory equipment on the retail market for use in their homes will suffer as a result because devices such as oxygen concentrators, portable oxygen systems, pulse oximeters, etc., are included under the anesthesiology devices category and, thus, do not qualify for the retail tax exemption. The tax will also make it more difficult for manufacturers, particularly small companies, to develop new equipment that could improve the lives of people living with chronic respiratory conditions.

H.R. 346, which is currently pending in the House of Representatives, includes a provision that would repeal the tax.

"We strongly support and encourage Congress to enact H.R. 346 and the provision in this legislation to repeal the medical device tax in an effort to avert adverse outcomes for those pulmonary patients who suffer every day with debilitating chronic respiratory diseases," writes AARC President Karen J. Stewart, MSc, RRT, FAARC. ■

AARC's Statement on the U.S. Supreme Court Ruling on the Affordable Care Act

In a five-to-four decision, the U.S. Supreme Court ruled to uphold the Affordable Care Act, with one major exception. The Court struck down the Medicaid provisions that would require states to increase the number of poor they cover. However, overall, the ruling effectively means that provisions of the ACA will go forward as planned and that hospitals and providers alike will continue to adjust their operations to meet the requirements of the legislation.

While the AARC will not take a position on the advisability of the Supreme Court decision, we want our members to know that we will continue to advocate for legislation aimed at ensuring access to quality respiratory care services for patients with pulmonary conditions.

As it has over the past few years with its Medicare Respiratory Therapy Initiative, the AARC will work to increase patient access to respiratory therapists in all care settings, and we will continue to be the voice in Congress to position RTs to deliver the full extent of critical services you are professionally trained to provide. We will also continue to be a strong advocate for our patients. Our specific goals will be to ensure that:

- People living with respiratory conditions receive the care and education they need to minimize exacerbations and lead full and rewarding lives.
- People with respiratory conditions have access to care from qualified RTs regardless of care setting.
- Individuals living with respiratory conditions remain a priority of concern for federal, state, and local legislators and chronic disease coalitions across the United States.

The AARC will keep our membership informed on the impact the decision will have on the profession of respiratory therapy and the pulmonary patients it serves, particularly those who may be affected by the Medicaid portion of the ruling. ■

Celebrate Respiratory Care Week, Oct. 21–27

RC Week is that special time of year when respiratory care professionals everywhere are honored for their contributions. Start planning now to show your enthusiasm and pride in your chosen profession.

- Plan events for recognition and fun with your RC team.
- Encourage your patients and their families with special activities.
- Promote lung health awareness at community fairs.
- Educate local students about the career.
- Demonstrate the value of RC professionals in your facility.

As the official sponsor for Respiratory Care Week, the AARC provides a great website at www.AARC.org/rcweek. Make it your favorite destination for event ideas, planning tips, photo sharing, theme products, and more. ■

▶ Strange But True...

Fashion statement: By binding an insecticide to fabric at the nano level, Cornell researchers have come up with a mesh cloth they believe people in Africa and other countries can wear to help ward off mosquitoes infected with malaria. A colorful hooded bodysuit made out of the cloth debuted at the Cornell Fashion Collective fashion show last spring.

Light bulb moment: University of Alabama at Birmingham researchers believe nearsightedness may one day be slowed down by simple exposure to fluorescent light bulbs. The potential treatment grew out of research showing children who spend more time outdoors in bright light are less likely to develop the condition.

Two for one: Could a colonoscopy help determine whether someone will develop Parkinson's disease? Rush University researchers think the answer could be yes. They found that the alpha-synuclein protein known to accumulate in the brains of people with Parkinson's can also be seen in nerve cells in the wall of the intestines of people with early signs of the disease.

Have a cup: National Cancer Institute investigators suggest the key to a long life might be found in a cup of joe. In their study, older people who consumed three or more cups of coffee a day (caffeinated or decaffeinated) were 10% less likely to die than those who didn't. The link was seen for heart disease, respiratory disease, stroke, injuries and accidents, diabetes, and infections — but not cancer.

Rock-a-bye-baby: Florida State University investigators have developed a musical pacifier to help premature infants hone their sucking abilities. The Pacifier Activated Lullaby uses a specially wired pacifier and speaker to provide musical reinforcement every time a baby sucks on it correctly. Babies are motivated to continue the sucking motion so they can hear more of the lullaby. ■

AARC Leaders Attend Meetings

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

George Gaebler, AARC President-elect

- Presenting an AARC Update at the annual meeting of the Massachusetts Society for Respiratory Care
- Presenting an AARC Update at the New Jersey Society for Respiratory Care annual meeting

Thomas J. Kallstrom, AARC Executive Director/CEO

- Presenting the Keynote address at the Massachusetts Society for Respiratory Care annual meeting

Enter the 2012 AARC Photo Contest

AARC Times is looking for creative members to enter our AARC Photo Contest. Winners will receive a free one-year membership renewal and have their photo entered into our Photo-of-the-Year Contest with the chance of it being chosen to appear on the February 2013 cover. For instructions and guidelines, select the *AARC Times* icon on www.AARC.org and click on the "Photo-of-the-Year Contest" link. Deadline is Oct. 1, 2012. ■

U.S. Public Health Service: It's Not a Job, It's a Career

LCDR Johanna Gilstrap says her service in the USPHS gives her the chance to serve her country.

Thanks in part to years of work by the AARC, in 2007 the U.S. Public Health Service (USPHS) decided to include Registered Respiratory Therapists with a bachelor's degree or higher in the USPHS Commissioned Corps. RTs who met that requirement and others set forth by the USPHS could now enter the Corps as officers.

That was good news for Johanna Gilstrap, MPH, BSRT, RRT. After nine years of providing acute, chronic, and emergent respiratory care in community and academic health care settings, she decided a life of public service was for her and applied. Now she's the respiratory protection program manager at the Centers for Disease Control and Prevention (CDC) in Atlanta, GA, and a lieutenant commander in the USPHS.

LCDR Gilstrap first became acquainted with the USPHS while she was working at the CDC. "I was intrigued by the uniformed officers I saw on campus. I began asking officers about the Commissioned Corps and its mission," she says. "The Corps seemed like an ideal fit." She liked the fact that service in the Corps would give her the ability to serve her country during national disasters and other health-related emergencies, and she appreciated the opportunity it offered to work in diverse geographic locations and agencies.

Of course, that doesn't mean the application process was quick and easy. In addition to meeting the educational and credentialing requirements, LCDR Gilstrap had to undergo a medical review and background check, and the therapist appointment board had to review her application to ensure her qualifications met the category's standards. But when everything was said and done, she was excited to know that her name would be submitted to the U.S. Senate for confirmation. "I was called to active duty on Jan. 6, 2012."

In her current role as manager of the respiratory protection program, she is responsible for helping to keep workers safe on the job. The program ensures CDC employees who are required to wear a respirator to protect them from airborne contaminants have the appropriate medical clearance and undergo training and fit testing of respirators worn in the workplace. The program enrolled nearly 800 employees in 2011.

"Whether it is the laboratorian who is performing drug susceptibility testing in multi-drug resistant tuberculosis or the outbreak investigator on the frontlines, it is critical that they have appropriate protection so they can continue to make advances that improve the health of Americans," she says.

LCDR Gilstrap encourages her fellow RTs to consider joining her in the USPHS. "There are many different areas that respiratory therapists can contribute to," she says, including working in a clinical capacity, educating underserved populations, performing research, and helping to form health policy. With clear benchmarks for advancement, excellent benefits, and a true "esprit de corps," she believes the USPHS could be the ideal path for many RTs. "It is a career," she says, "not a job." ■

Why I Want To Become a Respiratory Therapist

by Kalyn Lea Brown

Growing up I always wanted to be an elementary school teacher. When I began college at the age of 18, I was taking all education-based classes and I was well on my way to becoming what I had dreamed of. That is, until February 2005 when something happened that would change my life forever.

Not only was I going to school full time, I was also working part time at a daycare center to gain some experience working with preschool children. One day after work I came home to a house full of strangers and my mom crying on the couch. I did not know what was wrong; but when I walked up to my mom, she told me that we were moving back to California the next week because my grandfather — whom I called "Papa" — had just been diagnosed with stage 4 brain cancer.

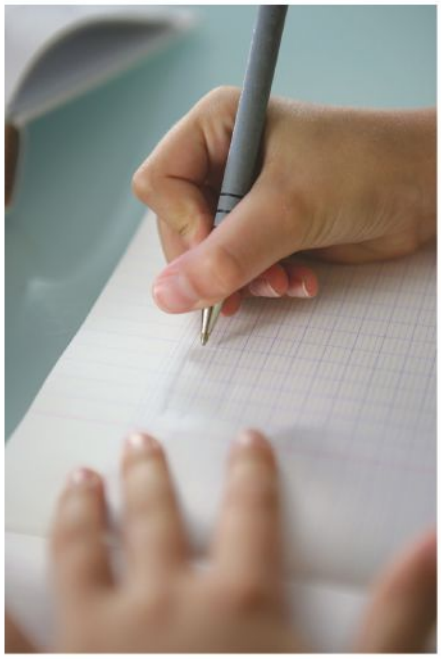
The second I heard this news, I ran to my room and starting throwing clothes into suitcases and packing up my belongings. Ever since I was born my Papa had always been my favorite. Papa didn't give spankings; he got you out of trouble. More importantly, he would pick me up from school in his big truck, with the bass boat attached, and I knew it was time to go fishing. On extra special days we would go down to a local ice cream shop for a chocolate-dipped vanilla cone.

When mom told me the news, I could not fathom what I was hearing. The strongest yet sweetest man alive (besides my father) was sick? We moved back to California the next week to be by his side.

When we first moved back, Papa seemed perfectly fine, and I felt confident that he would pull through. His surgery took place on Feb. 25. I remember sitting in his room, looking at all the IVs and monitors and listening to the surgeon explain the procedure. The bottom line: where the tumor was lying could affect his speech, and he might not come out with the ability to speak.

We kissed him goodbye and away he went for what seemed like days. When we got to see him again, he had breathing tubes and his head was wrapped, but he was alive. However, the surgeon said they could not remove the entire tumor and that it was a very aggressive, fast returning cancer.

After a few days he came home and was up walking and talking. But each month brought less and less he could do. He started messing his words up and falling down, and each day it got harder and harder for me to watch him decline. Finally he got to the point where he could no longer walk. He stayed in a hospital bed in the living room, and someone slept beside him every night. He could not speak, but you could still see a twinkle in his eye when we would speak to him. Many nights I would sit on the edge of his bed, holding his hand and singing to him.



At 4 a.m. on July 4, 2006, I heard him gasp for air. I jumped up screaming for my mother, nana, and two cousins to come because I knew something wasn't right. We held his hand as he looked at us. We all kissed his head and told him it would be OK. He passed away with all of us sitting with him.

As we sat and watched the fireworks that night, I knew that my goal in life was to help people by being in the medical field. I want to do everything I can to make my patients comfortable and help them get better. I believe a respiratory therapist is just as important as all the other health care professionals who helped my Papa. Breath is so vital to life; and if I can help make breathing a little bit easier, and help families spend even one more minute with their loved ones, then I will have done my job. Everyone takes breath for granted, but respiratory therapists know it is the key essential to life! ■

Kalyn Brown is a student member of the AARC who is currently enrolled in the respiratory therapy program at Weatherford College in Weatherford, TX.

AARC Summer Forum a Big Success

The AARC held a great three-day conference for managers and educators in the beautiful mountains of Santa Fe, NM, July 12–15. Attendees were able to network, learn, and take advantage of a precourse on "Building a Simulation Toolbox." Also, a special post-course on "Getting the Best Return on Your Investment: Maximizing Patient Education" was presented, sponsored through an unrestricted educational grant by Draeger Medical.

"Summer Forum gave me the opportunity to network with other educators and managers from across the country. The pre-session program, "Building a Simulation Toolbox" was especially helpful since my department is incorporating simulation into our clinical training and competency assessments," said J. Brady Scott, BSRT, RRT, clinical education coordinator of respiratory care services at Rush University Medical Center in Chicago, IL.

The Summer Forum Exhibit Hall let AARC Corporate Partners and book publishers showcase their offerings. Attendees liked the casual format of the Summer Forum because several extended their stay and made this into a vacation with friends and family. Everyone enjoyed the great cultural offerings, Southwest cuisine, and outdoor splendor of the Santa Fe area. ■

Respiratory educators and managers at this year's Summer Forum attended three days of sessions specialized to their specialty sections.

Members, Send Us Your Human Interest Stories

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

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

Avian Flu: Four Mutations Away from Transmission in Mammals?

Researchers from the University of Wisconsin-Madison whose study on avian flu transmission was held up by a debate between infectious disease experts and flu and public health researchers finally published their findings in the May 3 edition of the journal *Nature*.

According to lead author Dr. Yoshihiro Kawaoka, "Our study shows that relatively few amino acid mutations are sufficient for a virus with an avian H5 hemagglutinin to acquire the ability to transmit in mammals." Specifically, just four mutations to the hemagglutinin protein may be enough to pose a serious threat to human health. The good news is, an H5N1 vaccine and the antiviral drug oseltamivir both proved effective against the mutated version of the virus.

Dr. Kawaoka believes public health officials should monitor for these mutations in nature and take appropriate measures to protect human health. ■

▶Transitions

Shannon Jordan, BS, RRT, is the new chief operating officer at Carroll County Memorial Hospital in Carrollton, MO. Prior to taking on her new position, she was director of cardiopulmonary services. (Photo 1)

Shelbourn Stevens, MBA, RRT, has been named president of Brunswick Novant Medical Center in Bolivia, NC. Stevens, who began his career at Novant Health as a respiratory therapist in 1990 and had been serving as interim president, previously served as the facility's senior director of operations and was the director of cardiopulmonary services for Forsyth Medical Center in Winston-Salem before joining Brunswick in 2006.

Robert Bonner, MEd, RRT, has been honored by the Respiratory Care Society of Washington with a new award named in his honor. The Robert A. Bonner Award for Outstanding Professional Service will go every year to a respiratory therapist who has demonstrated outstanding contributions to the profession and practice of respiratory care in Washington State. Bonner has served as a respiratory care instructor at Highline Community College in Des Moines, WA, for nearly 30 years and is currently the department coordinator.

Ana Sicilia, RRT, has received top honors in the Allied Health and Nursing category at the 20th Annual Beacon Conference at Westchester Community College in Valhalla, NY, for her paper titled "Alpha 1 Anti-Trypsin Deficiency Lung Disease Awareness and Latest Treatments." A student at Bergen Community College in Paramus, NJ, Sicilia was mentored by AARC member Amy Ceconi, RRT, RPFT. (Photo 2)

Sherry Stanbach, BS, RRT, was named Cape Regional Medical Center's Service Excellence of the Year Honoree for 2011. Stanbach joined the Cape Regional Medical Center team in February 1985, shortly after graduating from the RC program at Atlantic Cape Community College.

John J. Howe, BS, RRT-NPS, RN, passed away on May 5 after a brief illness. An AARC member since 1977, he enjoyed a long career in the profession, working in northwestern Indiana, Chicago, IL, and on the west coast of Florida. He is survived by his wife and fellow AARC member, Eileen Howe, RRT-NPS.

Jessica McMillan of Charleston, SC, died on June 17 following a long battle with pulmonary hypertension. She was a respiratory therapist supervisor at Roper Hospital in Charleston, SC. The South Carolina Society for Respiratory Care is collecting donations from the respiratory community for the Jessica McMillan Memorial Fund to be donated to the Pulmonary Hypertension Association. To read Jessica's full story or learn about the fund, visit www.wepay.com/donations/jessicamcmillan. (Photo 3)

We welcome news about AARC members. Submit notices online at www.AARC.org/transitions. ■

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

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

COPD Foundation Suggests New Approach to COPD Screening

The COPD Foundation has released results from a study it believes could change the way the general population is screened for COPD. The investigators found a three-stage approach — consisting of a questionnaire-based screening test, pocket spirometry assessment, and diagnostic spirometry — is the best way to identify people with the condition.

"This is a tremendously important study that could ultimately change the way we screen for COPD," Byron Thomashow, MD, chair of the COPD Foundation board of directors, said recently. "Our goal is to create an easier, less costly means for screening for COPD in order to eliminate barriers to consistent implementation of COPD guidelines." He emphasizes, however, that more work is needed to replicate the current results in a clinical study and fine tune the questionnaires. ■

And the Award Goes to…

Every year the Environmental Protection Agency (EPA) honors exceptional health plans, health care providers, and communities in action with its National Environmental Leadership Award in Asthma Management. One winner is generally chosen in each category. In 2012, the Regional Asthma Disease Management Program (RADMP) at Mission Children's Hospital in Asheville, NC, was selected in the health care provider category. The program was founded 11 years ago by AARC member and principal investigator for RADMP.

Lung function testing is an important part of the program.

Melinda Shuler, BSBA, RRT, HHS, AE-C, regional clinical coordinator

Shuler says the program grew out of a community health assessment performed by the Buncombe County Health Center in cooperation with other local health agencies back in 2001. "Once the program protocol was written, we began implementation in 2002," she says. "We received ED utilization reports, and West Asheville was identified as our 'high utilizer' of the ED for the diagnosis of asthma."

She and her colleagues decided to target that area with their initial intervention, and from there worked with a wide range of community partners to slowly but surely expand the program to include more communities and additional staff, includ-

The kids enjoy seeing the results of their lung function tests on the computer screen.

Children receive a packet of information aimed at helping them and their families learn more about their asthma as part of the RADMP program.

ing a supervisory physician, Dr. Donald Russell, who reviews patient charts, makes recommendations, and is available for consultation as needed. She's also taken on another RT, AARC member Amy Trees, BS, RRT-NPS, AE-C, and she receives administrative support from Mission RT manager and AARC member Terrence Smith, MHS, RRT, and others.

Today the program has grown to serve 21 mostly rural and isolated counties in Western North Carolina, including the Eastern Band of the Cherokee Indians. Last year it was incorporated into Mission Children's Hospital and is in the process of transitioning from a public service entity to a billable service.

The overall goal of the RADMP is to address health disparities in minority children with asthma. The program meets that goal by targeting both individual patients age 12 and under and social support leaders, organizations, and networks such as schools and school personnel. By incorporating the six key messages from the National Heart Lung and Blood Institute's "Expert Panel Report 3" guidelines, plus the EPA's Indoor Air Quality Tools for Schools Program, Shuler and her staff are able to provide clinical care to individual students and educate parents and school personnel on creating an asthma-friendly environment for the children.

Outcomes data on the program show it is having an impact. A chart audit conducted on 50 patients found ED visits decreased from 158 prior to the intervention to nine, post intervention, and hospitalizations went from 60 to three. Missed school days dropped as well, from 17 to nine, and statistically significant improvements were seen in all clinical measures, including FVC, FEV_1, FEF_{25-75}, and exhaled nitric oxide. Other outcomes collected between 2009–2011 found 93% of adults impacted by the program pledged to create an asthma friendly environment for their children, and 91% pledged to create a smoke-free environment.

However, the best indicator of the program's success probably comes from the patients and families themselves, who share what it has meant to their own lives. One mother of a daughter with asthma, for example, wrote about Shuler and her willingness to go above and beyond for her family, noting, "She has taught us asthma awareness in our environment and is helping us remodel our bathroom. It is old and in need of repair, and she offered to take on the project." The mom adds, "What started out as a job has turned into a friendship."

Another mom cited the convenience of having asthma care at her children's school, which saves the family from having to make regular trips to another town for doctor's office visits. "Through their participation in this program, we have been able to adjust their medications to where they are both doing great!" Another simply said having Shuler visit her children's school was like "having a second set of eyes on them and their asthma needs."

Shuler emphasizes that she and her colleagues are thankful to have received the EPA award, but the real payoff comes from being able to make such a positive impact on their community. "The success of our program is a direct reflection of our dedicated staff, the partnerships and friendships that have been established at the local, regional, state, and national levels, and our underserved asthmatic children and their families throughout Western North Carolina. It has been a very rewarding and humbling experience to have the opportunity to serve the children and families of the Western region of North Carolina." ■

A Family Affair

Lee Robinson (center) says having Yelena and Andrey Gokhgalter (left) and Richard and Monica Spafford (right) in his program marked the first time in his 35-year teaching career to have brother/sister and husband/wife pairs enrolled at the same time.

If you're like most people in respiratory care, you enrolled in your RC educational program on your own. Sure, you made friends in the class, and you probably even studied with them from time to time. But for four students who graduated from the respiratory therapy program at Springfield Technical Community College (STCC) in Springfield, MA, last May, respiratory care education was an all-out family affair. Richard and Monica Spafford are husband and wife, and Yelena and Andrey Gokhgalter are brother and sister.

The Spaffords, both in their 30s, came to the program from different directions. Richard was running his own business but was burned out and wanted to try something new. Monica had already earned a medical assisting degree and was working for a pulmonary physician practice group, which piqued her interest in the respiratory system.

As for the Gokhgalters, early 20-somethings who emigrated to this country from Russia 12 years ago when their family was seeking refuge from religious persecution, a career in health care was almost a given. Their mother is a doctor, their father a dentist, their sister a nurse, and their older brother a veterinarian. They just needed to decide which path to take.

One thing all four had in common: Program Director Lee Robinson, RRT, who helped them all see the value of a career in respiratory care. The AARC member intrigued Richard Spafford when he spoke about the profession at Monica's graduation from her medical assisting program, he provided the help Monica needed when she decided to further her education in respiratory therapy, and he served as an advisor to both Yelena and Andrey when they were seeking to firm up a career choice. He says this was the first time in his 35-year teaching career to have a married couple and siblings in the same class.

The four recent graduates say having a family member in the class gave them the extra boost they needed to succeed. "Monica helped me do a lot better than I would have done on my own because we got to study together, carpool together, have discussions together, etc.," says Richard. "We had each other's back and helped and motivated each other every step of the way."

Monica, who hails from Colombia, says she especially appreciated her husband's assistance with English, with which she still struggles a bit. "Many times Richie gave me the motivation to get through the tough times while in the program," she says.

Of course, they weren't above a little friendly competition either. When tests were returned, for example, the spouse with the lower grade knew to expect some good-natured ribbing. "I remember every time we got our tests back, if my husband got a better grade, he would say to me 'Mona, I can tutor you anytime you want.'"

Yelena says being in the same class with her brother reminded her of the gym class they shared during high school, noting they motivated each other, and it's the same in respiratory care. She believes the experience was better because of it. "I loved every minute of being in the same class as my brother. He is my hero, my best friend, and my example."

Andrey echoes those sentiments, noting that while some people might be annoyed by having their little sister by their side, he has always seen Yelena more as a helper and a friend. "Without her keeping me awake at night telling me to study, asking me questions about ABGs, I don't know how I'd get the grades," he says. "Definitely a blessing to have her there." ■

Correction

In the August 2012 "NBRC Insight" column, *AARC Times* regrettably printed a type overprint in the summary paragraph. It is reprinted below.

Summary

These are subtle changes from the original content. The intent is to gain a small efficiency with each multiple-choice item or simulation problem that relies on descriptions of mechanical ventilation while preserving candidates' abilities to comprehend examination content.

The NBRC Committee of Examination Committee Chairmen continues to support the decision from a decade ago since it is often relevant to identify the variable that is controlled during inspiration in addition to the mode. It is possible that some test takers could assume that A/C communicates that volume will be controlled during inspiration without saying so. The committee decided to standardize on routinely describing both the mode and the control variable for each pattern of mechanical ventilation to remove confusion. Describing the mode and control variable will remain as critical content for many multiple-choice items and simulation problems. The NBRC will soon transition to using acronyms to describe these elements. ■

Honoring Military RTs

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

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

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

Graphic Warnings = Better Recall of Smoking's Health Risks

Graphic warnings on cigarette packages really are better at helping smokers recall warnings about the health risks of smoking, report University of Pennsylvania researchers publishing in the online first edition of the *American Journal of Preventive Medicine* in June.

The study was conducted among 200 current smokers who were randomized to view either a text-only warning label or a graphic warning label containing an image of a hospitalized patient on a ventilator along with a health warning in larger text, similar to the type of label proposed for use in the United States by the FDA. When asked to write down the text of the warning label after the viewing was over, 50% of the participants in the text-only group were able to correctly recall the information versus 83% of those in the graphic warning group. ■

Smoking Status Overlooked in Most Cancer Trials

You would think researchers conducting clinical trials on cancer would want to know whether their subjects smoked and, if they did, would then offer them smoking-cessation services. Not so for the majority of trials, report U.S. researchers who evaluated 155 actively accruing national cooperative-group clinical trials funded by the National Cancer Institute. They found that less than 30% of active trials assess any form of tobacco use at enrollment, less than 5% assess tobacco use during follow-up, and none provide cessation support.

"Tobacco use during cancer therapy reduces the effectiveness of treatments, increases the toxicity of those treatments, and ultimately causes more people to die from their cancer," lead author Graham Warren, MD, PhD, was quoted as saying. "The lack of evidence-based tobacco assessment and cessation support limits our ability to accurately assess how tobacco use may affect clinical-trial outcomes and survival." He and his colleagues published their findings in a recent issue of the *Journal of Clinical Oncology*. ■

National Health Observances

- **Respiratory Care Week**; Oct. 21–27; AARC, (972) 243-2272; www.AARC.org/rcweek; materials available
- **Lung Health Day**; Oct. 24; AARC, (972) 243-2272; www.AARC.org/rcweek; materials available

A Donation from the Heart

Donna MacVicar shared her love of cycling with an injured veteran by presenting him with a brand new bike at the Lt. Dan Weekend event in South Carolina last spring.

If you've seen the movie "Forrest Gump," then you remember Lt. Dan — the wounded soldier played by Gary Sinise. Playing Lt. Dan on the big screen made a profound impression on Sinise, and he's been paying it forward ever since by supporting veterans' causes, including his annual Lt. Dan Weekend in Beaufort, SC.

This year AARC member Donna MacVicar, CRT, got into the act as well, by donating a mountain bike to a Marine who suffered a traumatic brain injury and nerve damage in his neck after he was hit by an improvised explosive device in Afghanistan in 2005.

"I was a professional firefighter/EMT in Beaufort, SC, for 15 years," explains MacVicar, who now serves as an RT at Christiana Care in Christiana, DE. "A good friend of mine whom I worked with in the fire service, and who is a retired Marine, has been involved with the Lt. Dan Weekend. He told me about it and said that one of the events was a bike ride with the vets."

An avid bike rider herself, she was naturally interested. "I found out that many injured vets use cycling for physical rehab and to help them reconnect to their community, family, and lives again. With my love of cycling, I just thought it would be a bit more from the heart to donate a bike to a wounded veteran than to just give a financial donation."

MacVicar contacted the organizer of the event and was soon matched up with Sgt. Andrew Litz. Then she got her local "bike guy" involved too, who agreed to pitch in for the cause by selling her a mountain bike at 50% off the usual price. She loaded it up in her car and headed to Beaufort, where she assumed she'd just present it to Sgt. Litz at the annual Lt. Dan bike ride. When she got there, she found out everyone instead wanted her to present it to him up on stage before the Lt. Dan Band concert.

MacVicar says she was a "nervous wreck" but seeing the big smile on Sgt. Litz's face more than made up for it — as did the sweet hug she says she received from Gary Sinise after the concert. "The whole event was a very emotional and moving experience for me. I mean, how can one really express one's appreciation to these brave men and their families who have sacrificed so much to keep us safe and free?" she asks. "Sgt. Litz's life has been changed forever by his injuries. I can only hope that that mountain bike can bring him some joy and help him heal." ■

AARC Times

Photo Contest

Call for Entries

Go to
http://tinyurl.com/72qfqt5

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

- You must be an AARC member.
- Contest finalists will receive one year *FREE DUES* on membership renewal.
- Finalists will be in the Nov. 2012 issue for members to vote on.
- The winning photo will be on the Feb 2013 cover.
- All photos become the property of the AARC.
- You must provide a signed release form for everyone in the photo.
- Go to www.aarc.org and type *photo release* in the search box or have Karen fax you one. Call (972) 406-4661.
- If you have a story for the photo, please send that, too.

New Members

Welcome to the AARC

U.S. Members

A

Buckler, Timothy, Mobile, Al*

Dean, Holly, Hot Springs National Park, Ar*
Farnam, Jay, Benton, Ar*
Houston, James, Fort Smith, Ar*

Arevalo, Wendy, Tucson, Az
Backof, Michelle, Phoenix, Az*
Baron, Alan, Tucson, Az*
Bell, Willie, Tucson, Az
Brooks, Byron, Laveen, Az*
Brown, Matthew, Phoenix, Az
Davis, Steve, Chandler, Az*
Foster, Marcia, Tucson, Az
Fremgen, Scott, Sahuarita, Az
Garcia, Jennifer, Queen Creek, Az*
Garris, Debbie, Scottsdale, Az*
German, Sergio, Tucson, Az
Gloshay, Janet, Fort Defiance, Az*
Johnson, Brad, Gilbert, Az*
Johnson, Stephanie, Marana, Az
Jones, Richard, Tucson, Az
Kozel, Narissa, Tucson, Az
Morris, Divone, Tucson, Az
Pesqueira-Murrieta, Lizbett, Tucson, Az
Reyes-Morales, Giselle, Tucson, Az
Rivera, Laura, Tucson, Az
Smith, Betthany, Tucson, Az
Valdez, Ramon, Tucson, Az*

C

Abdalla, Nurah, Corona, Ca*
Ahluwalia, Sonia, Irvine, Ca
Amat, Erlene, Murrieta, Ca
Anderson, Gary, Santa Cruz, Ca*
Ayala, Jonathan, Covina, Ca
Barrus, Andreas, Vallejo, Ca*
Bedolla, Maria, Vacaville, Ca*
Bloom, Nicole, Yucaipa, Ca
Bonafede, Blake, Redlands, Ca
Borreli, Arcelia, Bakersfield, Ca*
Briley, Esmeralda, San Diego, Ca*
Briseno, Gabriela, Lancaster, Ca*
Burckhard, Michael, Fontana, Ca
Canoy, Dave, Corona, Ca*
Childress, Robert, Mentone, Ca
Cloutman, Matthew, Redondo Beach, Ca*
Cocilova, Anthony, Menifee, Ca
Crosby, Charles, San Bernardino, Ca
Cummings, Amanda, Temecula, Ca
Dan, Monica, Antelope, Ca*
Danford, Danielle, Menifee, Ca
Dangla Cruz, Justhie, Los Angeles, Ca*
Davila, Silvia, Carson, Ca*
Dodge, Deborah, Loma Linda, Ca*
Duffin, Cameron, Rancho Cucamonga, Ca
Duran, Kipp, Redlands, Ca
Durk, Shawna, Barstow, Ca*
Escalante, Maria, Temecula, Ca
Evans, Anrea, Lake Elsinore, Ca
Ferguson, Jared, Wildomar, Ca
Fetros, Valerie, Sacramento, Ca*
Ganowsky, Aaron, Simi Valley, Ca*
Gloudeman, Corey, Yucaipa, Ca
Grassmyer, Lori, Fresno, Ca*
Green, Donallyn, Murrieta, Ca
Greene, Staci, Escondido, Ca*
Grice, Alexander, Chino, Ca
Hernandez, Rodolfo, Chula Vista, Ca*
Ho, Pik Wah, Pacifica, Ca*
Jenson, Kelly, Temecula, Ca
Klohr, Lisa, Beaumont, Ca
Lai, Elisa, Castro Valley, Ca*
Lampman, Brendan, Modesto, Ca
Landa, Summer, Temecula, Ca
Lewis, Maryann, Redlands, Ca*
Mance, Christian, Chula Vista, Ca*
Mance, Marga, Chula Vista, Ca*
Marchante, Julie, Murrieta, Ca
Maria, Lisa, Winchester, Ca
Marshall, Aaron, Folsom, Ca
Marting, Molly, San Bernardino, Ca
Meraz, Arthur, La Verne, Ca
Miller, Deanna Rae, San Diego, Ca
Morse, Joseph, Ramona, Ca*
Naranjo, Dagoberto, Chino, Ca*
Nguyen, Tin, San Bernardino, Ca*
Noy, Paulkun, San Diego, Ca*
Ocampo, Daniel, Yucaipa, Ca
Partain, Curt, Madera, Ca*
Patel, Jignesh, Temecula, Ca
Patlan, Enrique, Sierra Madre, Ca*
Pena, Javier, Riverside, Ca
Peterson, Ian, Anza, Ca
Prophet, Jodilee, West Sacramento, Ca*
Quintana, Michael, Vallejo, Ca*
Rader, Alexa, Murrieta, Ca
Releford, Karyn, Long Beach, Ca*
Reyes, Meliza, Arcadia, Ca
Rifenburg, Troy, Ione, Ca
Rigney, Suzanne, Murrieta, Ca
Rivera Lopez, Patricia, San Pedro, Ca*
Rodriguez, Cassandra, Temecula, Ca
Rosenberg, Susan, Lake Balboa, Ca*
Saifullah, Shawn, Corona, Ca
Scheuerman, James, San Diego, Ca*
Scholl, Tabitha, Moreno Valley, Ca
Serame, Eduardo, Chino Hills, Ca*
Shimoum, Katherine, Sacramento, Ca*
Solomon, Terrilyn, Monterey, Ca*
Spadazzi, Massimo, Temecula, Ca
Springer, Carlton, Redlands, Ca
Stansbury, Cheryl, Perris, Ca
Staten, Torrie, Heber, Ca*
Tanjuaquio, Michelle, Murrieta, Ca
Tat, Chi, San Jose, Ca*
Teo, Renfred, Redlands, Ca
Thomas-Harrelle, Wendy, Riverside, Ca
Tidwell, Rodney, Los Angeles, Ca*
Tighe, Joshua, Aliso Viejo, Ca*
Trejo, Desiree, Winchester, Ca
Tunque, Janeth, Highland, Ca
Urich, Heather, Ridgecrest, Ca*
Warren, Amanda, Lake Elsinore, Ca
Werner, Michael, Los Angeles, Ca*
Woods, Bryttney, Beaumont, Ca
Yarijanian, Anahid, Sunland, Ca*
Zoll, Kevin, Ventura, Ca*

Fufa, Gudissa, Denver, Co*
Lucero, Sid, Commerce City, Co*
Morken, Lacey, Colorado Springs, Co*
Nebel, Jennifer, Erie, Co*
Preuit, Donald, Denver, Co*
Rebber, Rhonda, Woodland Park, Co*
Rose, Ruby, Steamboat Springs, Co*
Weiss, Mke, Aurora, Co*

Bagual, Alona, New Canaan, Ct*
Lederman, Casey, Vernon Rockville, Ct*
Merli, Lindsey, Rocky Hill, Ct
Skinger, Laurie, Plainville, Ct*

D

Mahamed, Ahmed, Washington, DC*

McFadden, Valerie, Felton, De*
Rickards, Jessica, Seaford, De*

F

Bartsch, Stephanie, Tallahassee, Fl*
Basden, Anitra, Hialeah, Fl*
Degrande, Dionne, Saint Augustine, Fl*
Hunt, John, Jacksonville, Fl*
Hurley, Amanda, Chuluota, Fl*
Jensen, Mya, Palm City, Fl*
Johnson, Betty, Bradenton, Fl*
Meadows, Gene, Interlachen, Fl*
Miko, Kyle, Coral Springs, Fl*
Miner, Kristen, Wesley Chapel, Fl*
Nehila, Cathy, Cape Coral, Fl*
Newkirk, Nailah, Tallahassee, Fl*
Oreste, Schneider, Kissimmee, Fl*
Rinville, Ernst, Miami, Fl*
Scrivener, Gerald, Land O Lakes, Fl*
Swartz, James, Gainesville, Fl*
Thrift, Amy, Tallahassee, Fl*
Williams, Teri, Gainesville, Fl

G

Ahsan, Asia, Tucker, Ga*
Bacon, Sydnei, Savannah, Ga
Ball, Scott, Augusta, Ga*
Brost, Robert, Springfield, Ga
Bruk, Lydia, Clarkston, Ga

These individuals have been approved for membership in the AARC. Any member may object to a new membership by filing a written objection with the Executive Office within 30 days. *Active Members

Calhoun, Christa, Jackson, Ga*
Capers, Julianne, Pooler, Ga
Clinkscales, Natalie, Hiram, Ga
Debel, Mahlet, Clarkston, Ga
Edwards, Kellie, Powder Springs, Ga
Fairchild, James, Cornelia, Ga
Floyd, Pamela, Albany, Ga*
Gaut, Dale, Cumming, Ga*
Gebreyonhanis, Abrehame, Clarkston, Ga
Graham, Monifa, Austell, Ga*
Hall, Carl, Lithonia, Ga*
Hicks, Erica, Lawrenceville, Ga
Horton, Steven, Atlanta, Ga*
House, Haley Brook, Macon, Ga*
Hutchinson, Charly, Savannah, Ga
James, Cortney, Reynolds, Ga
Jolley, Kerrie, Snellville, Ga*
Losgar, Jennifer, Augusta, Ga*
Menefee, Joshua, Valdosta, Ga*
Miles, Breanna, Hazlehurst, Ga
Mosley, Sondrea, Marietta, Ga*
Moss, Teresa, Augusta, Ga*
Oden, Kevin, Canton, Ga*
Padgett, Heather, Hinesville, Ga
Patel, Dhara, Warner Robins, Ga
Perez Gainey, Neysa, Pembroke, Ga*
Pierre, Elizabeth, Marietta, Ga
Pike, Michael, Patterson, Ga*
Seitz, Dustin, Atlanta, Ga*
Serebour, Rita, Lithonia, Ga
Tafere, Yohanes, Decatur, Ga
Thomas, Markesha, Albany, Ga*
Tietjen, Eric, Augusta, Ga
Timmons, Jasmine, Jonesboro, Ga
Vordermeier, Jordan, Claxton, Ga
Wallace, Dominique, Atlanta, Ga
Webb, Brandi, Savannah, Ga
Wells, Brianna, Stone Mountain, Ga
Whitley, Christy Ann, Hinesville, Ga
Wilson, Gary, Jesup, Ga*
Woods, Sr, David, Screven, Ga*
Wright, Daphne, Valdosta, Ga*
Young, Stacey, Grovetown, Ga*

H

Sorenson, Kole, Kapaa, Hi*

I

Dettmer, Liza, Fredericksburg, Ia
Dvorak, Lori, Iowa City, Ia*
Keniston, Emily, Waterloo, Ia
Roberts, Aster, Waterloo, Ia
Ronemous, Thomas, Waterloo, Ia
Schaefer, Andrea, Readlyn, Ia
Shaffer, Andria, Waterloo, Ia
Van Gorp, Krista, Altoona, Ia
Wachal, Jason, Jesup, Ia
Waters, Felecia, Waterloo, Ia

Farley, James, Ketchum, Id*
Hinkle, Vicki, Meridian, Id*
Lacy, Debi, Middleton, Id*
Matthews, David, Boise, Id*
Weideman, Mike, Weiser, Id*

Adeyiga, Bola, Chicago, Il
Agdeppa, Ely, Addison, Il*
Bonilla, Christabel, Chicago, Il*
Djikas, Gayle, Evergreen Park, Il*
Flinn, Thomas, Belleville, Il*
Gowin, Julie, Chicago, Il*
Gyeabour, Joel, Chicago, Il
Hardy, Dewana, Mount Sterling, Il
Lott, Tracy, Roscoe, Il*
Lovett, Candice, Lake Villa, Il*
Martin, Frankie, Chicago, Il
Matthews, Pavionce, Westchester, Il
McCabe Pinn, Linda, Hennepin, Il*
Merchant, Leeann, O Fallon, Il*
Nedumackal, Vimala, Glenview, Il*
Olugbile, Taiwo, Chicago, Il
Roby, Raymond, Chicago, Il
Rogers, Brandy, Calumet Park, Il
Santiago, Wilfredo, Oak Lawn, Il
Shelton, Angelee, Chicago, Il
Simmons, Lesesha, Chicago, Il
Taylor, Sherri, Mackinaw, Il*
Thomas, Thomas, Glenview, Il*
Tolston, Angela, Chicago, Il*
Tsang, William, Morton Grove, Il*
Wilson, Carolyn, Chicago, Il*
Wilson, Kimberly, Chicago, Il
Wingba, Joetta, Chicago, Il
Worley, Stephanie, Godfrey, Il

Ali, Rashma, Munster, In*
Bonilla, Maria, Terre Haute, In
Cooper, Ida, Terre Haute, In
Hawthorne, Laverne, Indianapolis, In
Hoit, Kim, Bloomington, In*
Lawlyes, Tamara, Terre Haute, In
Lemaster, Jasmine, Pennville, In
Reynolds, Ruth, Indianapolis, In*
Stack, Michael, Crown Point, In*
Sullivan, Kaitlyn, Indianapolis, In
Teater, Shannon, Jeffersonville, In*
Toungate, Carissa, Anderson, In*

K

Annis, Abby, Tonganoxie, Ks
Barlow, Abby, Kansas City, Ks
Barrick, Stephen, Shawnee, Ks
Basinger, Steve, Lenexa, Ks*
Bray, Chenika, Kansas City, Ks
Bright, Kris, Kansas City, Ks
Callahan, Amy, Wichita, Ks*
Carter, Meloni, Kansas City, Ks
Chongo, Nzala, Lenexa, Ks
Daly, Elaine, Overland Park, Ks
Flummerfelt, Trisha, Lawrence, Ks
Fox, David, Bonner Springs, Ks
Gardner, Rebecca, Bonner Springs, Ks
Groat, Joe, Kansas City, Ks
Hall, Ronald, Topeka, Ks
Hecht, Shelley, Shawnee, Ks
Henderson, Chris, Kansas City, Ks
Hooser, Amanda, Lenexa, Ks
Huynh, Phuong, Kansas City, Ks
Ilomo, Nuru, Kansas City, Ks
Ingram, Christal, Kansas City, Ks
Kadel, Michael, Overland Park, Ks
Kagiri, Mark, Lenexa, Ks
King, Michelle, Lenexa, Ks
Kowal, Carmen, Shawnee, Ks*
Lai, Christina, Kansas City, Ks
Lamphier, Jessie, Leavenworth, Ks
Leta, Tamene, Kansas City, Ks
Ligare, Joyce, Lenexa, Ks
Linkinhoker, Megan, Kansas City, Ks
Lowe, Shenicka, Kansas City, Ks
Mubanga, Salome, Lenexa, Ks
Njau, Phillimina, Merriam, Ks
Osman, Sadik, Kansas City, Ks
Patric, Nichols, Overland Park, Ks
Patterson, William, Hoyt, Ks*
Ross, Ronnie, Kansas City, Ks
Sanders, Kay, Baldwin City, Ks
Serwadda, Thomasinna, Topeka, Ks*
Taylor, Brandy, Kansas City, Ks
Tillman, Denise, Leavenworth, Ks
Tittel, Alicia, Bonner Springs, Ks
Turner, Brittney, McLouth, Ks
Uti, Clara, Kansas City, Ks
White, Philena, Edwardsville, Ks
Williams, Lajuana, Kansas City, Ks
Willis, Zachary, Lawrence, Ks

Gilbreath, John, Owensboro, Ky*
Lucas, Michelle, Richmond, Ky*
Means, Terri, Hopkinsville, Ky*
Vander Velden, Joshua, Louisville, Ky

L

Adair, Valerie, Thibodaux, La
Benson, Bobbie, West Monroe, La*
Brien, Heather, Des Allemands, La
Brouillette, Tiffany, Marksville, La*
Broussard, Meagan, Houma, La
Brown, Rosanne, Marrero, La*
Cotten, Ashley, Vidalia, La
Dempster, Michelle, Vacherie, La
Difulco, Maria, River Ridge, La
Domangue, Erica, Houma, La
Doucet, Demi, Larose, La
Duet, Carly, Cut Off, La
Duplantis, Katina, Houma, La
Guidry, Cherie, Houma, La
Henry, Dorian, Houma, La
Lambert, Jennifer, Thibodaux, La
Lecompte, Heather, Houma, La
Lirette, Whitney, Chauvin, La
Mink, Donna, Bossier City, La
Mitchell, Alicia, Houma, La
Piner, Brian, Greensburg, La*
Robichaux, Paige, Montegut, La
Romero, Carl, New Orleans, La*
Sheriff, Di'na, Kenner, La
Stadalis, Hannah, Morgan City, La
Taquino, Ashley, Marrero, La
Vargas, Julie, Marrero, La
Vargus, Julie, Marrero, La

M

Callahan, Ellen, Peabody, Ma*
Moenius, John, Brockton, Ma*
Perumal, Shakila Devi, Marlborough, Ma
Pucell, Christine, Shrewsbury, Ma*

Ankrah, John, Takoma Park, Md
Bass, Sarah, Upper Marlboro, Md*
Betelhem, Abebe, Takoma Park, Md
Binyam, Yonatan, Takoma Park, Md
Bishaw, Elleni, Takoma Park, Md
Cannon, Courtney, Takoma Park, Md
Carbonell Sanchez, Ivan, Gaithersburg, Md
Clissaint, Sophonie, Takoma Park, Md
Dagnaw, Melkam, Takoma Park, Md
Demissie, Vironica, Takoma Park, Md
Gardner, Nicole, Belcamp, Md*
Gebreyes, Alem, Takoma Park, Md
Sertse, Alem, Takoma Park, Md
Toto, Joseph, Elkton, Md
Walker, Shauntee, Takoma Park, Md
Yacob, Mussie, Bowie, Md*

Hughes, Arron, Searsport, Me*

Bunch, Jennifer, Royal Oak, Mi*
Hudgin, Karin, Temperance, Mi*
Moore, Scott, Clare, Mi*
Toler, Katherine, Coldwater, Mi*

Bold, Richard, Saint Paul, Mn*
Dresch, Jean, Rosemont, Mn
Erickson, Taryn, Duluth, Mn*
Sapp, Scott, Saint Paul, Mn*

Boakai, Jeneba, Kansas City, Mo
Bredehoeft, Kelsey, Columbia, Mo
Burns, Kristina, Chesterfield, Mo
Burris, Allison, Springfield, Mo
Carter, Brittany, Imperial, Mo
Cook, Sasha, Springfield, Mo
Day, Eric, Buffalo, Mo
Dodson, Christena, Marshfield, Mo
Emerick, Sarah, Columbia, Mo
Franzen, Todd, St Louis, Mo*
Gallagher, Marilyn, St Louis, Mo*
Garton, Keatyn, Springfield, Mo
Hamelink, Joanna, Aurora, Mo
Harker, Leah, Republic, Mo
Henderson, Joe, Saint Joseph, Mo*
Higgins, Peyton, Columbia, Mo
Hunter, Kristen, Columbia, Mo
Jay, Matthew, Billings, Mo
Jones, Shonda, Saint Peters, Mo*
Kisting, Amber, Springfield, Mo
Kitterman, Paulette, Springfield, Mo
Lambert, Megan, Columbia, Mo
Limron, Kevin, Ozark, Mo
Loveland, Rebecca, Springfield, Mo
Massaquoi Fully, Janabah, Kansas City, Mo
McCoy, Kristie, Springfield, Mo
McDaniel, Paula, West Plains, Mo*
McGrath, Rachel, Springfield, Mo
McWhorter, Stacy, Rolla, Mo*
Melton, Jill, Webb City, Mo*
Minzer, Alaina, O Fallon, Mo
Mulkey, Carolyn, Springfield, Mo
Niemeier, Brooke, Columbia, Mo
Perry, Chelsey, Springfield, Mo
Phillips, Graham, Springfield, Mo
Pour, Mary, Kansas City, Mo
Raymer, Courtney, Sikeston, Mo*
Rhodenbaugh, Courtney, Columbia, Mo
Ringger, Rachael, Columbia, Mo
Schlueter, Sherry, Concordia, Mo*
Skelton, Roger, Willard, Mo
Solovic, Georgia, Lees Summit, Mo*
State, Weston, Springfield, Mo
Thompson, Joya, St Louis, Mo*
Thompson, Kevin, Farmington, Mo*
Thompson, Lloyd, St Louis, Mo*
Williams, Jamie, Marshall, Mo
Wood, Gabriel, Fenton, Mo
Yannizzi, Nicole, Springfield, Mo

Ashley, Erin, Crosby, Ms
Baldwin, Rita, Pontotoc, Ms*
Delaney, Nicole, Natchez, Ms
Duncan, Sonja, Kiln, Ms*
Dwight, James, Hattiesburg, Ms*
Fielder, Todd, Natchez, Ms
Houghton, Christopher, Woodville, Ms
Murray, Ashley, Natchez, Ms
Senteno, Rosalie, Ocean Springs, Ms*
Stephens, Daniel, Natchez, Ms
Whatley, Greg, Natchez, Ms

Banning, Pam, East Helena, Mt*
Luebeck, Joe, Butte, Mt*
Osborn, Allison, Missoula, Mt*

N

Bush, Angela, Mount Airy, NC*
Cline, Jeffrey, Greenville, NC*
Costner, Geoffrey, Waxhaw, NC*
Cullipher, Stephanie, Greenville, NC*
Dane, Jennifer, Morrisville, NC*
Fulkerson, Ferra, Whiteville, NC*
Haneline, Matt, Clemmons, NC*
Iseminger, Candice, Fayetteville, NC
Jernigan, Brittany, Harrells, NC
Lasu, Kwaje, Winston Salem, NC*
Lewis, Windy, Tabor City, NC
Locklear, Ashley, Lumberton, NC
Lowry, Paula, Lumberton, NC
Lucas, Charlotte, Kernersville, NC*
Marshall, Yvette, Concord, NC*
Phelps, Dale, Ahoskie, NC*
Robinette, Carole, Pinehurst, NC*
Wray, Lori, Arden, NC*

Mann, Marissa, Mandan, ND*

Jones, Carolyn, Alliance, NE*

Pelchat, Heidi, Webster, NH*

Bantang, Ronald, Jackson, NJ*
Darabant, Erin, Somerville, NJ*
Keith, Angela, Long Branch, NJ*
Luca, Kimberly, Medford, NJ*
Schuman, Stephen, Sparta, NJ*
Zacharia, Divya, Union, NJ*

Ackermann, Judith, Albuquerque, NM
Kohler, Mark, Rio Rancho, NM
Longmire, Lance, Roswell, NM*
Vigil, Johnny, Albuquerque, NM
Wright, Tami, Rio Rancho, NM

Chew, Davina, Reno, Nv*
Sherwood, Angela, Henderson, Nv*
Stednitz, Leah, North Las Vegas, Nv*
Zabel, April, Las Vegas, Nv*

Achil, Gilene, Baldwin, NY*
Ashby, Jerad, New York, NY*
Checola, Scott, New Hartford, NY*
Dunn, Norma, Bridgeport, NY*
George, Litty, Woodside, NY*
Gergis, Shady, Brooklyn, NY*
Gilchrest, Lynn, Ossining, NY*
Jang, Hanna, Jackson Heights, NY
Jones, Rupert, Rosedale Queens, NY*
Liang, Mei, Plainview, NY
Long, Selang, Bronx, NY*
Martinez, Alvin, New York, NY*
Ninan, Varughese, Franklin Square, NY*
Padilla, Frank, Babylon, NY*
Persaud-Cox, Denise, Flushing, NY*
Qiu, Fengjuan, Brooklyn, NY
Ramsamm, Jonathan, Valley Stream, NY
Sheikh, Aruba, Yonkers, NY
Thomas, Jithin, Bronx, NY*
Urbina, Claudia, White Plains, NY
Yip, Amy, Brooklyn, NY*
Zakina, Karolina, Brooklyn, NY*

O

Anthony, Alyssa, Youngstown, Oh*
Becker, Barbara, Cincinnati, Oh*
Beerman, Heather, Hilliard, Oh*
Bentley, Susan, Glouster, Oh*
Bogner, Kristy, Green Springs, Oh*
Bonacorsi, Christy, Norton, Oh*
Brown, Katelyn, Cleveland, Oh
Case, Suzanne, Delta, Oh*
Chapman, Kelsie, Cortland, Oh
Childers, Brad, Lancaster, Oh*
Chylinski, Roberta, Gates Mills, Oh
Clark, Joni, Kettering, Oh*
Clucas, Ashley, Brunswick, Oh
Cozatt, Elizabeth, Dayton, Oh*
Davis, Gregory, Twinsburg, Oh
Dellinger, Elizabeth, Niles, Oh
Dolin, Tonya, Parma, Oh
Dwenger, Leonard, Findlay, Oh*
Dybiec, Jack, Brunswick, Oh
Echeverry, Daniel, North Royalton, Oh
Everiss, Nicole, Olmsted Falls, Oh
Fenton, Serena, Loudonville, Oh*
Fillian, Dawn, Akron, Oh*
Finzel, Holly, Burton, Oh
Fultz, Leah, Zanesville, Oh*
Gaffney, Susan, Thompson, Oh*
Gallo, Audrey, North Royalton, Oh
Gillette, Ryan, West Carrollton, Oh
Graham, Beth, Elida, Oh*
Grimm, Melissa, Dillonvale, Oh*
Haley, Linda, Dayton, Oh*
Hauser, Renee, South Euclid, Oh
Hoffman, Peter, Kirtland, Oh*
Hurt, Terri, Franklin, Oh*
Johnson, Joyce, Columbus, Oh*
Johnson, Mary, West Alexandria, Oh*
Johnson, Sarah, Kettering, Oh*
Kennedy, Chris, Cleveland, Oh
Kenrick, Tracy, Kettering, Oh*
Keyser, Michelle, Massillon, Oh*
Klisanin, Ivana, Independence, Oh
Kmiec, Matt, Richfield, Oh
Krecskay, Billie, Lebanon, Oh*
Law, Lashea, Parma, Oh
McAdams, Vicki, Elida, Oh*
Mladineo, Robert, Bedford, Oh*
Murach, Jonathan, Independence, Oh
Nazarian, Tiffany, Youngstown, Oh
Neely, Roy, Medina, Oh*
Nuss, Kris, Akron, Oh*
Phillips, Christopher, Amherst, Oh*
Pittinger, Tracy, Copley, Oh
Poropat, Frank, Willoughby, Oh
Price, Amy, Centerville, Oh*
Price, Olivia, South Point, Oh
Ranginwala, Anees, Springfield, Oh*
Saffle, Heather, Wapakoneta, Oh*
Saldana, Melissa, Middletown, Oh*
Saunders, Meg, Columbus, Oh*
Scott, Elizabeth, Massillon, Oh*
Shafer, Charistina, Ironton, Oh*
Shellenbarger, Michael, Cleveland, Oh
Sofer, Keri, Cincinnati, Oh*
Sosnowski, Mary, Cincinnati, Oh*
Soublet, Marcella, Columbus, Oh*
Stevens, Christina, Pleasant City, Oh*
Sullivan, Margaret, Hilliard, Oh*
Svonovec, Gina, Medina, Oh
Winters, Millie, Avon, Oh

Brown, Patrick, Midwest City, Ok*
Dame, Donald, Oklahoma City, Ok
Goforth, Andrew, Broken Arrow, Ok*
Hinton, James, Mustang, Ok*
Joseph, Sara, Yukon, Ok*
Kappely, Nila, Marlow, Ok*
Lenagar, Kevin, Oklahoma City, Ok*
Morrell, Lisa, Sawyer, Ok*
Tonsing, Shawna, Moore, Ok*

Cruise, Deanna, South Beach, Or*
Elhami, John, Pendleton, Or*
Meigs, Toby, Eugene, Or*
Plambeck, Jeremy, Astoria, Or*
Welsch, Paulette, Stanfield, Or*

P

Ali, Asad, Harrisburg, Pa
Anderson, Terry, Corry, Pa
Angelo, Merrie Beth, Uniontown, Pa
Bailey, Tiffany, York, Pa
Bator, Haley, Erie, Pa
Blakeman, Kellina, Sharpsville, Pa
Bovo, Deidre, New Castle, Pa
Bowers, Kori, Quarryville, Pa
Brown, Elizabeth, Millersville, Pa
Carides, Nicole, Millersville, Pa
Charles, Amanda, Millersville, Pa
Corrigan, Jennifer, Philadelphia, Pa*
Curry, Timothy, Mountville, Pa
Davis, Tecka, Sayre, Pa*
Dean, Ashley, Lancaster, Pa
Deeter, Stefani, Utica, Pa
Dubak, Brian, Media, Pa*
Duignan, Kati, Willow Street, Pa
Graham, Holly, Gap, Pa
Griffin, Yvonne, Lancaster, Pa
Gulland, Anna, Townville, Pa
Harper, Samantha, Uniontown, Pa
Hartsock, Shirley, Uniontown, Pa
Hibbler, Kristine, North East, Pa
Hogeland, Crystyn, Newmanstown, Pa
Houseal, Kristen, Elizabethtown, Pa
Johnson, James, Millersville, Pa
Johnston, Regina, Philadelphia, Pa*
Knouse, Linsey, Millersville, Pa
Kolb, Melanie, Landenberg, Pa
Kovach, Jered, Hermitage, Pa
Kregel, Andrea, Meadville, Pa*
Kreider, Rebecca, Norristown, Pa*
Kruczek, Lauren, Mountain Top, Pa*
Kumiega, Lindsay, Palmyra, Pa
Lacey, Danielle, Brownsville, Pa
Laubach, Jessica, Millersville, Pa
Lincoln, Brandon, Strasburg, Pa
Lonce, Daniel, Perryopolis, Pa*
Lupo, Stephen, Erie, Pa
Lyons, Matthew, Franklin, Pa
Mathew, Sunu, Philadelphia, Pa*
Matthews, Bridget, Uniontown, Pa
Mendez, Michael, Lancaster, Pa
Mixell, Jefferson, Lancaster, Pa
Moyer, Shawn, Millersville, Pa
Perry, Stacey, Grove City, Pa
Rawding, Heather, Brookhaven, Pa*
Richter, Christina, Connellsville, Pa
Runkle, Christine, Latrobe, Pa
Smith, John, Philadelphia, Pa*
Sochko, Daniel, Mount Pleasant, Pa
Stengel, Timothy, Millersville, Pa
Stewart, Tiffany, Connellsville, Pa
Styer, Peter, Brownstown, Pa
Thomas, Tom, Churchville, Pa*
Thomson, David, Springfield, Pa*
Ullom, George, Langhorne, Pa*
Usciak, Amy, Lancaster, Pa
Violante, Marlee, Sharon, Pa
Wahyon, Vivian, Upper Darby, Pa
Webber, Jessica, Morgantown, Pa
West, Joseph, Mechanicsburg, Pa

S

Anania, Victoria, Harleyville, SC
Bennett, Monica, North Augusta, SC
Benton, Jennifer, Bamberg, SC
Boltin, Victoria, Orangeburg, SC
Carroll, Kellie, Williston, SC
Eadie, Lori, Ridgeville, SC
Gramling, Sara, Moncks Corner, SC
Landmesser, Leesa, Blacksburg, SC*
Moore, Jennifer, Orangeburg, SC
Moore, Rita, Aiken, SC*
Olean, Christy, Ladson, SC
Quarles, Eugene, Irmo, SC*
Steele, Alisha, Walterboro, SC
Whitehead, Diana, Lexington, SC*

T

Augustin, Timothy, Nashville, Tn*
Ballou, Heather, Lafayette, Tn*
Chambers, Charlea, Midway, Tn*
Fischer, John, Columbia, Tn*
Green, Victoria, Blountville, Tn*
Hobock, Nicolle, Millington, Tn*
Roark, Tina, Erwin, Tn*

Allen, Reginald, Stafford, Tx*
Berry, Eric, Houston, Tx*
Burk, Michelle, Magnolia, Tx*
Calderon, Frank, Horizon, Tx*
Carey, Adam, Round Rock, Tx*
Cheek, Shauna, Lubbock, Tx*
Chigubu, Vivian, Austin, Tx*
Cowling, Samantha, Granbury, Tx*
Daniel, Holley, San Angelo, Tx
Davis, Robert William, Little Elm, Tx*
Flaharity, Melyssa, Amarillo, Tx*
Freeman, Chalenia, Pampa, Tx*
Garcia, Lidia, El Paso, Tx*
Garza, Cesar, Houston, Tx*
Gentry, Adrianne, Houston, Tx*
Hanes, Kari, Cedar Hill, Tx*
Houston, Judy, River Oaks, Tx*
Jones, Dawn, Grand Prairie, Tx*
Jones, Dominique, Hutto, Tx*
Jonsvoll, Claudia, Fulshear, Tx
Kalmbacher, Michael, Fort Worth, Tx*
Lara, Gabrielle, Clute, Tx*
Mansir, Cheryl, Plano, Tx*
Meaux, Heather, Nederland, Tx*
Meek, Kristen, Kingwood, Tx*
Menchaca, Robert, Sugar Land, Tx*
Mitchell, Michael Lawrence, Austin, Tx*
Montano, Carlos, Corpus Christi, Tx*
Mortensen, Steven, San Angelo, Tx
Mulenga, Martin, San Antonio, Tx*
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Nash, Michael, Fresno, Tx
Onyeuko Okafor, Cyril, Houston, Tx*
Pittsford, Halie, Austin, Tx*
Quiambao, Francis, Houston, Tx*
Rodriguez, Candice, Katy, Tx
Seay, Suzanne, Spring, Tx*
Shabazz-York, Jedidah, Del Valle, Tx*
Simon, Daniel, Fort Worth, Tx*
Simon, Tara, Spring, Tx
Spencer, Kathryn D, Odessa, Tx*
Spigener, Eric, Deer Park, Tx*
Tarrant, David, Guy, Tx*
Tran, Cam, Brenham, Tx*
Waddell, Celeste, Forney, Tx*

U

Kingston, Krista, Trenton, Ut
Morris, Stacy, West Jordan, Ut*
Ridges, Trenton, Kaysville, Ut
Shupe, Travis, Pleasant View, Ut
Stein, Lawrence, Washington Terrace, Ut
Stokes, Crissi, Santaquin, Ut*
Tripp, Brandy, Salt Lake City, Ut*
Waller, Art, South Jordan, Ut*
Wilson, Elizabeth, Layton, Ut
Young, Katie, Brigham City, Ut

V

Hundley, Amanda, Norfolk, Va*
Nagy, Barbara, Herndon, Va*
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Thompson, Helen, Newport News, Va*

W

Abdi, Ardirashid, Kent, Wa*
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Wallace, Angela, Vancouver, Wa*

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Davis, Tressler, Milwaukee, Wi*
Farres, Jillian, Adams, Wi
Feldhausen, Mary, Green Bay, Wi*
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Weege, Jeff, Madison, Wi

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Meador, Kevin, Beckley, WV
Scott, Derrick, Huntington, WV
Wolf, John, Cross Lanes, WV
Workman, Ashley, Kenova, WV*

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Classifieds

ADVERTISING SECTION

AARC Times Classified Advertising Information & Requirements:

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

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

We reserve the right to make editorial changes for reasons of clarity and consistency. Every effort is taken to avoid mistakes, but *AARC Times* cannot be responsible for clerical or printing errors.

Deadline for Ad Placement/Cancellation Deadline for ad placement and written cancellations for the next available issue is September 17. Blind ads available.

For Recruitment Advertising Information, Contact Classified Advertisement
Andrea Conté • Alhambra Plaza • 725 N. Highway A1A, Suite C-106 • Jupiter, FL 33477 • (561) 745-6793 • Fax (561) 745-6795 • AARCAD@aol.com

Recruitment Display Advertisements
For Recruitment Display Ad Rates, go to www.aarc.org/marketplace/media_kit/recruitment_12.pdf, or contact Tim Goldsbury and Associates, Alhambra Plaza, 725 N. Highway A1A, Suite C-106, Jupiter, FL 33477, (561) 745-6793, Fax (561) 745-6795

Jefferson College
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Director of Clinical Education for Respiratory Therapy

Jefferson College is seeking a highly qualified and motivated full-time faculty member who is student-centered and committed to innovative teaching, academic advising, institutional service, and community service. The individual selected to join Jefferson College's excellent full-time faculty will demonstrate commitment to assessing and documenting student learning outcomes and using technology in the learning process. The RRT program is a new provisionally accredited program with an enrolled cohort for fall 2012. For more detailed information about Jefferson College, responsibilities and qualifications for the position, and the application procedure, please visit our website at www.jeffco.edu. Jefferson College, 1000 Viking Drive, Hillsboro, MO 63050. EOE

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An award-winning community hospital in Maryland (Washington, DC suburbs) is currently seeking a Director to oversee the provision of services in our Respiratory Department. Working cooperatively with the Medical Director, physicians and other departments participating in the treatment of patients, you'll act as administrator, problem solver, educator and evaluator of services, while maintaining clinical skills by taking patient care assignments.

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To apply, please e-mail **RespiratoryDirector@AttnHR.com**.

EOE

Marketplace

Featuring information on products and equipment from manufacturers

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

Calendar of Events

AARC & State Society Programs

September 13–14
Morgantown, WV
West Virginia Society for Respiratory Care's Annual Fall Healthcare Conference
Contact Brian Ringler at ringlerb@wvuhealthcare.com

September 18–19
Honolulu, HI
39th Annual Hawaii State Respiratory Care Conference
Contact jikehara@lava.net

September 26–28
Hot Springs National Park, AR
41st Annual Arkansas Society for Respiratory Care State Meeting
Contact John Lindsey at John.Lindsey@Mercy.Net or call (501) 622-1974

September 26
AARC Live Webcast
Advances in Transport Mechanical Ventilation
Contact AARC, (972) 243-2272, www.aarc.org/education/webcast_central

October 21–27
Respiratory Care Week
Contact AARC, (972) 243-2272, www.aarc.org

October 24
Lung Health Day
Contact AARC, (972) 243-2272, www.aarc.org

October 24–26
Atlantic City, NJ
New Jersey Society for Respiratory Care Annual Shore Conference
Contact Michele DaSilva at education@njsrc.org or www.njsrc.org

October 25
Newark, DE
Delaware Society for Respiratory Care's Annual Trends in Respiratory Care Conference
Contact www.delawarelung.org or Laurene Eckbold at Leckbold@christianacare.org,

November 9–13
New Orleans, LA
AARC Congress 2012, Mechanical Ventilation 2012 (pre-course), Patient Safety Starts with You! (pre-course)
Contact AARC, (972) 243-2272, www.aarc.org/education/meetings

December 12
AARC Live Webcast
How Quality Care Impacts Payment — What You Need To Know
Contact AARC, (972) 243-2272, www.aarc.org/education/webcast_central

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

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

Advertiser Index

To advertise, contact: Tim Goldsbury, Advertising Sales, Alhambra Plaza, 725 N. Highway A1A, Suite C -106, Jupiter, FL 33477, (561) 745-6793, Fax (561) 745-6795, goldsbury@aarc.org. Or contact Beth Binkley, Advertising Assistant, Daedalus Enterprises, Inc., 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063-4706, (972) 243-2272, Fax (972) 484-2720, binkley@aarc.org.

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- ✔ Simple to use
- ✔ Comfortable for your patients

Learn more at **www.oridion.com**.

1 ASA Standards for Basic Anesthetic Monitoring, Committee of Origin: Standards and Practice Parameters (Approved by the ASA House of Del egates on October 21, 1986, and last amended on October 20, 2010 with an effective date of July 1, 2011) - Viewed 3-21-11 at ww.asahq.org/.../Standards%20Guidelines%20Stmts/Basic%20Anesthetic%20Monitor ing%202011.ashx

2 Stoelting R and Overdyk F. Anesthesia Patient Safety Foundation, Conclusions and Recommendations from June 08, 2011 Conference on Electronic Monitoring Strategies to Detect Drug-Induced Postoperative Respiratory Depression. Accessed August 25, 2011 at http://www.apsf.org/announcements.php?id=7.

3 Standards for Basic Anesthetic Monitoring. American Society of Anesthesiologists. Accessed 6/20/11 at http://www.asahq.org/For-Healthcare-Professionals/~/media/For%20Members/documents/Standards%20Guidelines%20Stmts/Basic%20Anesthetic%20Monitoring%202005.ashx

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