Adult Acute Care Bulletin

July/August '98

2
Editorial
Respiratory Care: *The "Next Generation"*

4
Know Your Numbers: NLHEP Set to Revolutionize Diagnosis of Lung Disease

5
Associate Degree Entry To Practice: A FAQ

6
The AARC and UCSD Offer Patient Driven Protocols Manual

7
FYI...

8
Outstanding Section Member of the Quarter: Request for Nominations

American Association for Respiratory Care

Notes from the Editor

by Nick Widder, RRT, CRTT, CPFT

Dakota tribal wisdom says that when you discover that you are riding a dead horse, the best strategy is to dismount. However, in business world we often try other strategies to deal with dead horses, including the following:

1. Buying a stronger whip.
2. Changing riders.
3. Saying things like, "This is the way we have always ridden this horse."
4. Appointing a committee to study the horse.
5. Arranging to visit other sites to see how they ride dead horses.
6. Increasing the standards to ride dead horses.
7. Appointing a "tiger team" to revive the dead horse.
8. Creating a training session to increase our riding ability.
9. Comparing the state of dead horses in today's environment.
10. Changing the requirements, declaring that "This horse is not dead."
11. Hiring contractors to ride the dead horse.
12. Harnessing several dead horses together for increased speed.
13. Declaring that "No horse is too dead to beat."
14. Providing additional funding to increase the horse's performance.
15. Doing a cost analysis study to see if contractors can ride it cheaper.
16. Purchasing a product to make dead horses run faster.
17. Declaring that the horse is "better, faster, and cheaper" dead.
18. Forming a quality circle to find uses for dead horses.
19. Revisiting the performance requirements for horses.
20. Saying this horse was procured with cost as an independent variable.
21. Promoting the dead horse to a supervisory position.

The above list was sent to me by my father, a man whose wisdom was not appreciated by me for the first eighteen years of my life.

The saddest part of this little satire is that we have all seen it applied in our clinical practices, be it the refusal to abandon old practices which no longer work in today's environment, or the unwillingness to conform with necessary changes that have been thrust upon us by outside forces. For example, recent changes in reimbursement may make placement of our long-term mechanically-ventilated patients more difficult. With fewer post-discharge options available, we will once again be required to reexamine the care being delivered to this patient population.

"Notes" continued on page 2

"Notes" continued from page 1

As a respiratory care practitioner who has been based primarily in acute care tertiary referral centers, I admit that my concentration has been on the critically ill patient. I have not spent much time at the bedside of the medically stable, chronic ventilator patient. As a manager (albeit a junior manager) of therapists in such a facility, I have not yet reassigned my therapists from the critical care areas to the bedside of patients who do not require critical respiratory care. But do our stable long-term patients deserve any less INTENSIVE care than our unstable patients? Surely they deserve a different type of care, and potentially the care they receive may not be as crucial to their actual survival, but they still deserve our care and attention.

I don't know the answer yet, and its likely that the actual answer will come from others with more experience with these patients. Long-term care facilities have worked to "wean the unweanable" because they treat their ventilator patients as the "sickest in the house." We tend to shift our attentions away from the stable ventilator patient to the unstable. Long-term care and rehabilitation facilities have been able to refocus the attention back on the chronic ventilator patient.

Business demands will require that these attentions be maintained in the acute care setting as well, in order to maximize the efficiency of the care we provide to patients with nowhere else to go. If theses patients have no other options but to stay in our facilities, then WE must step up to the plate, change our practices, and maximize their care. Should the chronic patient end up back in our arena, I doubt that we will see an increase in FTEs to compensate. We will each have to become more efficient, and again demonstrate our value at this "new" bedside. ■

Adult Acute Care Bulletin

is published by the
American Association for Respiratory Care
11030 Ables Lane
Dallas, TX 75229-4593
(972) 243-2272
FAX (972) 484-2720
e-mail: info@aarc.org

Kelli Hagen
AARC communications coordinator

Debbie Bunch
Bulletin managing editor

Edwards Printing
Bulletin typesetting

Section Chair
John M Graybeal, CRTT
(717) 531-8568
Fax (717) 531-4110
e-mail: jgraybeal@psghs.edu

Chair Elect
Dennis Hastings, RRT
(409) 772-8190

Medical Advisor
Fredrick A. Oldenburg, MD (ACCP)
(207) 972-6096

Bulletin Editor
Nicholas Widder, RRT
Lead Therapist
Department of Respiratory Care
Carolinas Medical Center
P.O. Box 32861
Charlotte, NC 28232
Phone (704) 355-2389
Fax (704) 355-8185
e-mail: NAWidder@aol.com

Editorial

Respiratory Care: *The "Next Generation"*

by Bruce Toben, RRT, CPFT, instructor, respiratory care program, Lehigh Carbon Community College, Schnecksville, PA

I recently attended the commencement exercises of a respiratory care program. During the proceedings, the class valedictorian addressed the graduating class in a stirring, upbeat tone, anointing her peers as the "Next Generation" of respiratory care practitioners. The "Next Generation," as the speaker remarked, would energize and propel our profession ahead, warp-speed into the future.

These catchy Star Trek phrases conjured up my memory banks of high technology and space age performance. The comments developed a link between a new era of stellar advancements and respiratory care practice. As I listened however, my mind started to wander. Will this "Next Generation" of RCPs truly jump light-years beyond the pioneers who developed the techniques and procedures we perform today?

Respiratory care techniques can be traced back more than two thousand years. Most probably, techniques in the management of cardiopulmonary disease will continue to unfold for another two thousand years, unless either mutations occur in human anatomy and physiology or scientific advancements develop corrections for cardiorespiratory failure without extraneous interventions. Lacking a magical crystal ball, it is difficult, if not impossible, to predict the future. However, for respiratory care to continue its development, the same process that undoubtedly allowed us to reach this plateau should set the pace for the "Next Generation." From Hippocrates to Comroe, from fireside bellows to microchip technology, from prayers of thankfulness to DRG cost-weighted indexes, medicine has evolved. Will there be further advancements in respiratory care?

"The Next Generation" continued on page 3

"The Next Generation" continued from page 2

Indeed there will, in spite of the Food and Drug Administration! What star map will the "Next Generation" use to guide their course? I believe the three universal standards will be education, technology, and cost-effectiveness.

Sound education plants the seeds for dreams. Antoine Lavoiser disproved the phlogiston theory and developed our current understanding of the properties of oxygen through scientific experimentation. His knowledge of chemistry and mathematics afforded him the framework to challenge the gold standard of his day. Unfortunately, he became a victim of misdirected and undisciplined revolutionary fervor. On the day following Lavoiser's execution by guillotine, a friend commented, "A moment was sufficient to sever his head but a hundred years will not be enough perhaps to produce another like it." How profound, but sadly true.

How many new graduates of respiratory care programs will have dreams of passive molecular diffusion or liquid ventilation? Without a sound knowledge base in cardiopulmonary science, the progress and sophistication of respiratory care will stagnate. In the past ten years, our current understanding of pulmonary diseases and their associated treatments has grown at an exponential rate. Our schools, however, still graduate students in the same amount of time they did a decade ago. Traditional concepts proved to be without scientific merit appear in bold type in the most current published textbooks. The educational precepts taught in the next millennium must encourage creativity and critical thinking if the "Next Generation" of RCPs are to make light-year improvements in patient management.

In the future, when our pseudo-socialistic medical system becomes better defined, financial resources to support discrete respiratory care service departments will be rare. As the current trend in departmental reengineering continues, highly trained RCPs will be absorbed into patient care pods. Tasks will be disseminated to the patient care team, permitting others to dispense traditional respiratory therapy. The techniques will be taught through bedside inservice education programs, allowing enough time to be aquatinted with the protocol, but not the chemistry, physics, or idiosyncrasies of the procedure. Before long, the "see one, do one, teach one" doctrine will follow. Maintaining professional autonomy will be trivial compared to sustaining and practicing acquired skills. Quality respiratory care will become an issue only when a heavy-weighted DRG is in need of care or a Congressman's child becomes critically ill. Will the "Next Generation" of RCPs compromise their educational standards or insist on competency-based integration of services and professionals?

As governments spend more dollars in the race to build up military hardware or attempt travel to newly-discovered solar systems, technology will emerge. It is ironic that the same microchip developed to annihilate a hemisphere of people will also be used to save their lives in the critical care unit. The ventilators of the future will be sleek in design and have lights, bells, and whistles second only to the warning of an approaching Scud missile. These ventilators will have innovative ways to support respiratory function and monitoring capabilities beyond our wildest imagination. Manufacturers will incorporate blood gas analyzers, monitors, computers, and adjunctive equipment into the ventilator's hardware.

However, the same ventilators will also have trendy gimmicks whose only value lies in helping to close the sale, thus giving more useless information and distorting the basic requirements needed to treat acute respiratory failure. The sales pitch will be s*aving lives;* the bottom line will be to capture the accessory equipment market. These new high tech blowers won't perform any better than our current ventilators, but JCAHO will insist that the physiologic monitors be present, whether or not they work—or we know how to use them. (All is not gloom and doom however. My fortune cookie just read, "Fuzzy dice and little dogs whose heads bob up and down are still optional.")

The future also brings the remote thought of "closed loop ventilation." With this method of mechanical support, physiologic data is fed into a computer and the appropriate ventilator setting changes are systematically applied. In Robin Cook's novel **Coma**, we learned of the ideal closed loop medical system. At his fictitious Jefferson Institute, computers increased the oxygen concentration on hypoxemic patients, dropped patients in the Trendelenburg position when they became hypotensive, and gave the necessary medication—to the *right* patient, with the *right* drug, at the *right* time, in the *right* route, with the *right* dose—to treat cardiac arrhythmia. The cost of this degree of artificial intelligence system is beyond our pocketbooks and our egos. The thought that computer assessment with a logical and unbiased reaction could manipulate ventilator controls goes not only against the Medical Practice Act, but the Nurse Practice Act as well. Ventilator changes without orders? Don't be absurd!

To the "Next Generation" of energetic RCPs, the following is a humbling note: When involved

"The Next Generation" continued on page 4

"The Next Generation" continued from page 3

in the critical care arena, don't get smug with your technical knowledge of ventilatory support. Remember that a ventilator treats that which lies between the chin and the belly button, and often other organ systems control the patient's final destiny. Joseph Civetta, MD, commented on the future of mechanical ventilation stating, " . . . simple ventilatory support corrects for simple ventilatory failure. Our enthusiasm for wishing to improve overall outcome because we have a myriad of ventilatory techniques should be restrained because we know that non-ventilatory causes of morbidity will not be affected by more elegant ventilatory support."

Belonging to the "Next Generation" implies growth and added responsibilities. Are our current RCPs, along with these new graduates, prepared to take on the challenges and risks that these new responsibilities demand? How many times have each of us sat by complacently and said, "Why doesn't the AARC do _____ for me?" How many times have we submitted to directives and uttered the words, "I know _____ isn't appropriate, but who am I to question the order?" How many times have we felt a lack of professional courtesy or attention by another clinical discipline and cried, "If only I had _____ initials after my name, then they would respect me!"

Is the "Next Generation" going to develop a sense of worth and pride, or will they quickly burn out, doing the "same old same old," blaming their institutions and organizations for the mess they find themselves in? Where do we expect to go in this new era of uncharted galaxies? Is the future genetically embedded in us, struggling to be unleashed, just on the verge of discovering new horizons? Or will we allow ourselves to be controlled and overwhelmed by our environment, only to go the way of the dinosaurs? Will the "Next Generation" of RCPs learn anything from the our past, or is our professional outcome preordained, soon to be found only on the dusty bookshelves of the future? What will the "Next Generation" offer the respiratory care profession?

Although this essay was conceived and written on a dark, dreary, rainy day, there is truth between these lines of sarcasm. The turning of a calendar page or the graduation of a new class of RCPs does not transport us light-years into the future, nor should these new practitioners suggest that our current procedures are obsolete. Instead, these new RCPs should learn from the past, modify the present techniques, and be prepared to adapt to the health care environment of the future. Patients can still survive and do well while being ventilated on a Bird Mark 7 Respirator, while those ventilated at rates of one thousand can still die. It is not the equipment we use that will make a difference in the future, but the individual who will be using the equipment. Morbidity and mortality will not improve with new monitors that detect anoxia or cardiac asystole, but rather with the appropriate interpretation of that data. The future will bring expensive, high-powered electrical intelligence to respiratory care. It is up to us, as professionals, to assess the need for this sophistication and use human intelligence in applying this technology.

As for my remarks to our new graduates—these are the challenges, risks, and responsibilities you must accept as the "Next Generation" of RCPs if respiratory care is to survive and grow. Free your imagination from the bonds of paradigms. Be prepared to experience new horizons and galaxies yet uncharted. Relax, sit back, and let your mind absorb all that you will be exposed to. Experience your chosen profession with guidance from the past while together we navigate respiratory care into the future with a newfound enthusiasm.

To the "Next Generation:"*Live long and prosper!* ■

Know Your Numbers: *NLHEP Set to Revolutionize Diagnosis of Lung Disease*

All AARC members recently received a copy, via publication in the March issue of RESPIRATORY CARE, of the National Lung Health Education Program's (NLHEP) resource document calling for greater use of spirometry to diagnosis COPD in physicians' offices. The program's chief aim: to make spirometry as routine in the physician's office as blood pressure checks are today.

"We are hoping that the program will grow the same way that cholesterol screening and blood pressure checks have grown," says Ray Masferrer, RRT, associate executive director of the AARC and the Association's representative on the NLHEP executive committee. In addition to the AARC, the program is being sponsored by the American Association for Cardiovascular and Pulmonary Rehabilitation, the American College of Chest Physicians, the American Thoracic Society, the American College of Physicians, and the Society of General Internal Medicine. Government sponsors include the

"Know Your Numbers" continued on page 5

"Know Your Numbers" continued from page 4

Lung Division of the National Heart, Lung, and Blood Institute, the National Cancer Institute, and the National Institute of Occupational Safety and Health. By joining forces through the NLHEP, these organizations believe they can revolutionize the diagnosis of COPD and other smoking-related illnesses.

Based on findings from the Lung Health Study — which noted that spirometry could effectively predict not only COPD but early death from all causes — the NLHEP is directed to all primary care professionals, respiratory care practitioners included. The objective is to reach all smokers and patients with common respiratory symptoms of dyspnea, cough, sputum, and wheeze by putting spirometers in the hands of all primary health providers and promoting their use. The program's theme — "test your lungs/know your numbers" — will attempt to convince patients that knowing their FEV1 and FVC is just as important as knowing what their blood pressure is or knowing their cholesterol levels.

At least three companies have developed spirometry devices so far capable of meeting the needs of the primary care physician. These devices give direct readout of FEV1, FVC, and the ratio between the two, along with the option of printing out volume-time and flow-volume curves. All meet American Thoracic Society standards.

"We needed devices that were inexpensive and easy to use," says Masferrer, "and companies have come up with those devices." The next step is to develop a Spirometry Statement that will help guide primary care physicians in the appropriate use of the test. He and the other members of the executive committee, says Masferrer, are currently working on such a statement and they hope to have a final version ready soon. "The NHLEP process," he says, "has been one of coming up with ways to facilitate the use of spirometry in physicians' offices."

What will the wide spread use of simple spirometers in primary care practitioners' offices mean to respiratory care practitioners? "RCPs will be called upon to actively participate in screening efforts," says Masferrer. As the only allied health practitioners with specific knowledge and training in spirometry, hospitals and doctors' offices alike will also look to RCPs to assist in training primary care practitioners — physicians and nurses — in the proper use and interpretation of spirometry.

Finding patients early in the course of their disease will create more treatment opportunities for practitioners in the profession as well. "One of the biggest benefits for respiratory care," continues Masferrer, "is that the program will identify more people with lung disease earlier on. So we will not only be part of the screening, we will also be involved with therapeutics — treating people with early disease to help them avoid major problems later on."

He also believes the program will encourage managed care companies to increase their investment in smoking cessation programs and other efforts aimed at prevention and wellness in this patient population. RCPs can play a role in these efforts as well, by lending their expertise in the diagnosis, treatment, and prevention of respiratory disease to companies who want to set up large scale screening and intervention programs for their enrollees. ■

Associate Degree Entry to Practice: A FAQ

Since it was announced last year, the change in educational requirements for entry-level respiratory care practitioners from a one-year program to a two-year program has raised a number of questions. Practitioners have been curious to know how this change will affect them. The AARC, the NBRC, and CoARC have compiled a list of Frequently Asked Questions to promote better understanding of the change. Here are excerpts from that list that may interest Adult Acute Care Section members:

Q: What impact will this change have on current CRTTs?

A: This change will not impact current CRTTs. They will continue to be recognized and the examination they completed (the entry level examination) will continue to exist. Only the education requirement for future applicants for the examination will be changed. Current CRTTs will be recognized as equivalent to future CRTTs who meet the new education requirement, just as the NBRC has always recognized the first RRTs as equivalent to RRTs credentialed subsequently under different educational standards.

Q: When will an associate degree be needed to qualify for admission to the entry level examination?

A: As noted in the Position Statement, the Standards revision process has several important steps which require considerable time to complete. The CoARC and the CoARC Transition Committee have developed a possible time line for completion of the necessary changes to the accreditation standards to require all programs to offer a minimum of an associate degree. This time line suggests that it will likely be the year 2002 before the revised Standards could

"A FAQ" continued on page 6

"A FAQ" continued from page 5

be fully in effect. If implemented by this year, it may be two additional years before any graduates could be produced by the programs operating under the new requirements. If so, this would likely mean that the first year the NBRC might require new applicants for the entry level examination to have an associate degree would be 2004.

Of course, those examination candidates who have already qualified for credentialing under the NBRC's current admission policies would remain eligible for testing and not be affected by this change for a significant period of time following its implementation.

Q: In the future, what will be the requirements for admission to the advanced practitioner examination?

A: The NBRC has not yet formally addressed the changes which may be needed to the admission requirements for the respiratory care credentialing examinations. The Board will do this during the course of the Standards revision process and provide information to the profession through the publications of the AARC and in NBRC Horizons as soon as decisions are known. Time will certainly be available for input from the profession before any final actions are taken.

Q: I am a CRTT working full time and pursuing an associate degree at night. Do I have to complete this degree by any particular time to continue practice or qualify for the advanced practitioner credentialing examination?

A: There is no requirement for you to complete your degree by any specified time. The NBRC currently has an admission requirement for the RRT Examination which permits CRTTs with certain education (currently 62 semester hours of college credit containing specific courses in the basic sciences) and experience (four years after certification) to attempt the examination without being graduates of an accredited therapist level program. This will likely continue for the foreseeable future. The NBRC's accreditation by the National Commission for Certifying Agencies currently requires the existence of alternative pathways into the advanced level credentialing program. Should the associate degree entry level proposal be adopted, it is possible that the NBRC could modify the present 62 hour requirement to be an associate degree, but this has not yet been decided by the Board of Trustees.

Note: The term "Standards" used in this document is now the official name approved by CAA - HEP for what was previously called "Essentials," or the key elements required for accreditation of education programs. ■

The AARC and UCSD Offer Patient Driven Protocols Manual

The AARC is proud to partner with the University of California San Diego (UCSD) in offering the university's Patient Driven Protocols Manual. UCSD's Respiratory Services developed the manual to serve as a resource for respiratory care providers in developing, implementing, or refining care plans which are implemented by bedside practitioners based on patient evaluations and responsive interventions.

The original protocol program was developed at UCSD in 1993 and has expanded from 2 protocols to more than 25. Each of them has been successfully implemented at UCSD as part of a hospital-wide program. In fact, the manual serves as a daily reference for respiratory therapists, physicians, nurses, and other medical staff at the university's hospital.

This protocol manual includes guidelines for oxygen, secretion management, percussionaire, autogenic drainage, extubation, and post-op laparotomy.

Cost of the manual (product # PA801) is $85 for members and $99 for nonmembers. Shipping cost is $10. For more information or to order, contact the AARC at (972)243-2272. ■

FYI...

Hyperbaric oxygen therapy found effective in brain injury

Treatment in a hyperbaric oxygen chamber can result in improvements in speech, memory, and attention for long-term traumatic brain injury patients, say researchers from the Transitional Learning Community in Galveston, TX. When they compared pre- and post-treatment single photon emission computed tomography (SPECT) scans of five patients who underwent a series of hyperbaric oxygen sessions with those of six controls they found that the treatment group showed increased blood flow in specific areas of the brain after treatment.

The treatment group first underwent 80 sessions in a hyperbaric chamber, followed by a five month rest period. Then they had 40 more sessions. The study showed that improvements peaked at the 80 session mark and were maintained by repeat sessions

"FYI" continued on page 7

"FYI" continued from page 6

every one to two weeks. All of the patients in the study were at least three years post-injury.

The study was presented at a recent meeting of the Undersea and Hyperbaric Medical Society.

Pulmonary complications high among HIV patients

A retrospective review of 233 autopsy cases of HIV-positive patients conducted by investigators from University Medical Center in Jacksonville, FL, found that over 90 percent had some form of pulmonary complication. Bacterial infection was the most common complication seen among the patients, with the two most common causes being Pseudomonas aeruginosa and Staphylococcus aureus.

Thirty-three percent of the patients had pulmonary mycobacterial infection, 24 percent had Pneumocystis carinii pneumonia, and 13 percent had extrapulmonary involvement. Among the 12 percent of the patients with Kaposi sarcoma (KS), the lung was the most common site; 19 percent of the patients with pulmonary KS showed no evidence of skin involvement at autopsy.

The authors conclude that the high rates of pulmonary complications found in their study indicate a need for greater attention to these complications by clinicians. (Chest 1998;113:1225-1229)

New vent mimics normal breathing

A new, computer-controlled ventilator that more effectively mimics normal breathing could minimize the lung damage that often results from long-term ventilator use.

Researchers from Boston University who developed the device note that the unvarying respiratory rate of conventional mechanical ventilators leaves "many peripheral airways closed . . . thereby creating large collapsed regions." Their computerized device solves that problem by introducing the random variations in respiration rates typically seen in healthy breathing.

Say the researchers, "Partial pressure of arterial oxygen is improved significantly by computer-controlled rather than conventional ventilation." By breaking the chain of injury propagation in acute lung injury, they believe these devices could have a significant effect on morbidity. (Nature 1998;393:127-128)

Hypertonic saline inhalation can be safe in severe asthma

French investigators who studied eight asthma patients with particularly poor lung function found that sputum induction by means of hypertonic saline inhalation can be a safe procedure even for severe asthmatics. Due to side effects, the technique has previously been used largely in mild to moderate asthma.

Although side effects forced a halt to the procedure in 11.6 percent of the patients, the researchers say that most of the patients tolerated the procedure well and that fewer than 20 percent had a drop in FEV1 of as much as 20 percent after the procedure. They conclude that while hypertonic saline inhalation in severe asthma warrants careful observation, it appears to be a safe technique. (Am J Respir Crit Care Med 1998;157:1127-1130) ■

Outstanding Section Member of the Quarter: *Request for Nominations*

Don't forget to make your nominations for the Adult Acute Care *Outstanding Section Member of the Quarter* award. The winner of each *Outstanding Section Member of the Quarter* award will be featured in an article in the *Bulletin* and our Specialty Practitioner of the Year will be chosen from these four winners. The winner of the *Specialty Practitioner of the Year* award will be honored during the Awards Ceremony at the AARC Convention.

The recipient of this award will be determined by the Section Chair or a selection committee appointed by the chair. Each nominee must be a member of the AARC and a member of the section. Mail or FAX a short (500 words or less) essay outlining your nominee's qualifications to the chair at the address/number listed on page 2 of this issue. Be sure to include your name, address, and phone number, along with that of your nominee. ■

American Association for Respiratory Care
11030 Ables Lane
Dallas, TX 75229-4593