



# Adult Acute Care

April / May / June 2003

Bulletin

## An Editorial: Do We Need an Adult Critical Care Specialist Certification?

by William S. Demaray, BS, RRT

Does the respiratory care profession need an adult critical care specialist certification?

That's a question that's been on the mind of our section chair, Nick Widder, since he took office. Nick has broached the subject with the AARC Board of Directors, and the Board plans to take it under advisement after reviewing the results from the recent NBRC job survey.

In the meantime, I'd like to invite all members of the Adult Acute Care Section to join in a dialogue to air opinions on this topic. The discussion can take place via the section e-mail list, or through letters to the editor published in the pages of this Bulletin. I'll get the ball rolling.

I, too, see a clear value in the development and implementation of an advanced credential for adult critical care RTs. In the current atmosphere, it is imperative that we support a ladder system of professional development. As nurses have both CCRN and non-CCRN practitioners in the ICU, we also should have practitioners who hold basic and advanced credentials. The holder of

Continued on page 4

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## Advanced Medical Technology and End of Life Issues Related to the Intensive Care Unit: The Respiratory Therapist's Perspective

by David Walker, RRT

**EDITOR'S NOTE:** The following article is excerpted with permission from a new book by David Crippen, MD; Jack K. Kilcullen, MD, JD, MPH; and David F. Kelly, PhD; entitled, *Three Patients - International Perspective on Intensive Care at the End of Life*. A review of the book appeared in our last issue.

Currently, we are ventilating a 70-year-old man with obvious multi-organ failure, including severe abdominal distension that is compromising the patient's gas exchange ( $\text{PaCO}_2$  70 mm Hg). The man has been on the ventilator for two weeks and received a tracheotomy yesterday, since the intensive care physician feels all patients should have a trach placed after one week of intubation. The patient is so agitated that placing the tracheotomy was probably a good idea, since this may prevent damage and irritation from the endotracheal tube. In addition to being agitated our patient is also very confused and combative - so much so that the nurse and I are almost completely exhausted after wrestling with this man for three hours into our shift.

This week we have a new attending physician who does not know this patient very well and does not seem very interested in gathering pertinent clinical information from the nurse or myself. Yesterday we were using pressure control ventilation, and the patient was very comfortable, even after placement of the tracheotomy tube. This morning during rounds the ICU doctor tells us that it is time to start weaning the patient and orders SIMV. I immediately suggest to the physician that, given the patient's abdominal distention, I do not feel that the patient will tolerate breathing with SIMV. The physician is somewhat annoyed that I questioned his decision, but I make a point of directing his attention to the volume pressure loops displayed on the ventilator's monitoring screen. The graphics clearly demonstrate that the patient's work of breathing has increased since we switched to SIMV. I immediately notice that my comments are not important to the physician, but he does listen to my concerns as he writes the orders in the patient's chart. After signing the orders, the physician tells me that he does not know the details of lung mechanics monitoring but feels that the data are not accurate and are certainly not a valid reason for not ventilating the patient with SIMV. My first reaction is that I have been working in intensive care longer than this physician has been alive, but I quickly (as always) tell myself that the physician is in charge and has the final word in the patient care decisions.

Later, after I return from lunch, the patient's agitation and confusion is so bad that he is trying to get out of bed while at the same time complaining of shortness of breath. The nurse and I feel we should call the physician and request additional sedation to keep that patient from injuring himself. So the nurse pages the physician, who responds within just a few minutes and orders a chest x-ray and blood gases stat. Fifteen minutes later the x-ray technician brings the developed film to the bedside while the nurse writes down the blood gas results on her flow sheet. The ICU physician enters the room a couple of minutes later and reviews the x-ray and blood gas results and requests that I increase the PEEP from 6 to 8 cm H<sub>2</sub>O, since the  $\text{PaO}_2$  is decreasing and the  $\text{PaCO}_2$  is increasing. Respectfully, I inform the physician that the patient's abdominal girth has increased 3 cm since early this morning and that is the reason for the poor gas exchange. In addition, the patient's respiratory rate has increased from 16 to 30/minute since we have switched to SIMV. The physician tells me that the patient is developing ARDS and that the abdominal distention has nothing to do with the

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Beginning this year, the Bulletin will be published on a quarterly, rather than bimonthly, basis. But that doesn't mean we'll be communicating with you less often than before. The plan is to increase communication to members via a monthly email which will feature items of interest to the section. If you're already receiving email messages from the AARC, you will automatically receive these e-mails. If you aren't getting AARC email, that means we don't have your email address. To ensure you don't miss out on these timely publications, send your email address to: mendoza@aarc.org. ♦

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## Adult Acute Care Bulletin

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Continued from page 1

## ADVANCED MEDICAL TECHNOLOGY AND END OF LIFE ISSUES RELATED TO THE INTENSIVE CARE UNIT: THE RESPIRATORY THERAPIST'S PERSPECTIVE

loss of oxygenation or the elevated PaCO<sub>2</sub>. So I increase the PEEP to 8 while the physician observes the pulse oximeter for an increase in oxygen saturation. Meanwhile, the patient is becoming even more agitated and pulls out two IV lines, although the nurse and I are trying our best to calm the patient.

We now have to suction the patient, which only agitates him even more - to the point that I am really afraid he may dislodge his trach tube. Finally, the physician orders additional sedation to include neuromuscular blockade. Now that the patient is paralyzed I ask the physician if it is okay to switch the ventilator to pressure control, but he insists that increasing the SIMV rate is the best strategy. So now I increase the SIMV rate from 6 to 15/minute while the physician requests that I increase the PEEP to 15 cm H<sub>2</sub>O, since the oxygen saturation has not improved.

As I slowly increase the PEEP, I notice at 12 cm H<sub>2</sub>O the volume pressure loop has a definite over-distension pattern. I immediately inform the physician, who is listening to the patient's breath sounds. The physician tells me that the lung sounds have improved and asks that I please increase the PEEP to 15. I increase the PEEP to 15, and 30 minutes later the nurse tells me that the urine output has decreased by 50% and the patient's blood pressure is very labile. I know now that we are doing harm to this poor patient and there seems to be nothing to do except just watch and hope for the best. Three hours later the patient's gas exchange has not improved and he is now developing a metabolic acidosis along with his respiratory acidosis. The physician enters the room making evening rounds and tells the nurse that he wants to place a Swan to assist with the fluids management, but he will wait for the night physician to make the final decision. It is at this point that I realize that despite the use of the most advanced technology in the ICU, patients still die - but not always in a dignified manner. In fact, these technologies may prolong the suffering of critically ill patients.

Before I prepare for report to the oncoming RT, I log onto the Internet to review the current published research into ventilating patients in multi-organ failure similar to our patient...I immediately find that the literature is so controversial that it becomes very frustrating to locate current evidenced-based medicine. For every article that presents one point of view, there is at least another documenting a completely different way to provide the same clinical outcome. Just as I finish reviewing an online paper, the patient's daughter comes up to me and asks how her father is doing today. I tell her that he is not quite as good as yesterday, but that she should talk to the physician to find out the details. She then tells me that she has done her own research on the Internet and feels that we are not treating her father according to current literature. At this time the nurse comes to join us and assures the daughter that we are doing everything possible for her father. The daughter then tells us that she wants everything done for her father, but that she does not want him to "suffer." Both the nurse and I inform her of the day's events and what the physicians plan to do if they decide to place the Swan later in the evening.

In the meantime the unit's medical director comes into the room and inquires about the patient's condition. The medical director is very knowledgeable about mechanical ventilation and associated lung mechanics monitoring. I point out the volume pressure loop as well as the decreased urine output following the increase in PEEP to 15. Our director then asks for my impression and I suggest decreasing the PEEP and switching the ventilator to pressure control. He agrees. Two hours later as I am preparing to leave for home, the nurse tells me that the patient's urine output has increased and his blood pressure has improved from earlier in the day. At the same time the night physician asks the nurse and myself why the day physician wanted to place a Swan in this patient since he was much improved. We could not answer his question, but we were very glad for his insight.

The next morning I arrive in the ICU to find the patient's wife and daughter at his bedside looking very grim to say the least. They tell me that the physicians are considering exploratory abdominal surgery...suddenly, "green ooze" pours from around the tracheotomy stoma and runs down the patient's neck and onto the pillow case. Both wife and daughter decide that surgery would only prolong the man's suffering and take away his dignity during his last days alive. Six hours later our patient dies from a sudden cardiac arrest, and at the family's wishes, we do not perform CPR.

Continued on page 4

# Case Study: Why Did This Patient Recover?

by William A. French, MA, RRT, Lakeland Community College, Kirtland, OH

EP is a 61-year-old male in the intensive care unit of a small, semi-rural hospital. He has a ten year history of COPD and CHF. He had coronary artery bypass surgery eight years ago. Four years ago, because of difficulty clearing secretions, he had a tracheostomy tube inserted. Since then, he has been a frequent inpatient. The current admission is his second in the past month.

Currently, he has a No. 8 uncuffed Shiley tracheostomy tube with no inner cannula. He keeps his trach plugged most of the time and receives oxygen via nasal cannula at four liters per minute. He also receives 2.5 mg albuterol and 0.5 mg ipratropium Q4 hours. Throughout the early evening, EP is alert and oriented. He exhibits some mild respiratory distress, especially with exertion; however, that is normal for his condition. His SpO<sub>2</sub> on the nasal cannula is 94%. His heart rate is 122, which is normal for him. His breath sounds are decreased throughout.

At approximately 2300 hours, he begins to complain of increased shortness of breath. Physical examination reveals absent breath sounds on both sides with moderate to severe shortness of breath. Heart rate is now between 140 and 150. SpO<sub>2</sub> on the nasal cannula is 90% and dropping. Stat chest radiograph is non-revealing. At this point, the trach is unplugged and the patient is placed on a trach collar connected to a large volume nebulizer set at 40%. In addition, an inner cannula is inserted into the trach, and the patient is given several breaths with a manual resuscitator, lavaged with small boluses of normal saline, and suctioned. However, after several attempts, no mucus is removed and the patient continues to deteriorate. The patient is then given two treatments with 2.5 mg albuterol plus 2 mL of 20% acetylcysteine. At the end of the second treatment, the suction is repeated with the same negative result. At 2330, the patient's heart rate is still around 150 and the SpO<sub>2</sub> is now 88% on 60% trach collar. In addition, the patient is now obtunded.

Arterial blood gases are obtained with the following results: pH 7.15, PaCO<sub>2</sub> 125, PaO<sub>2</sub> 116, HCO<sub>3</sub> 49. The patient's attending physician and family are notified and are on their way in. Preparation is made to change the tracheostomy tube to a cuffed No. 8 Shiley and to place the patient on ventilatory support. The patient begins to have runs of ventricular tachycardia.

However, at approximately 2350, the attending physician meets with family members. The result of this meeting is a decision to make EP a do-not-resuscitate and to keep him as comfortable as possible without any additional respiratory intervention. The FiO<sub>2</sub> on the trach collar is reduced to 40%. The patient is given Ativan. The monitor is turned off and the family gathers at the bedside to await EP's death.

At approximately 0530, EP wakes up and asks for a cup of coffee. After that, he continues to become more alert, and by that evening, his vital signs are back to what was normal for him. He indicates that he has no memory of what happened to him between 2345 and 0530. Seven days later, he is transferred to a transitional hospital for additional rehabilitation.

There are many possible explanations for EP's recovery without any active intervention, and certainly most experienced respiratory therapists have witnessed similar situations. The question is: is there a lesson to be learned from it and, if so, what is that lesson? ♦

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the new section E-bulletins.  
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## What's Your Commute Like?

We all have to get to work somehow, right? To find out how RTs manage it, we posted a question on our e-mail list recently seeking input from our members. Take a look at a few "sound bites" from the discussion -

I roll out of bed, dress, get out the door, and am at work in 10 minutes. Eat your heart out! — Lisa Bennett

60 miles and one hour one way at 0500 to arrive at the parking garage in San Francisco where I pay for parking and catch a shuttle to the hospital. — Name withheld to protect the innocent.

45 miles from driveway to parking lot. — Bill Farnham

About 15 minutes mostly at 70 mph on Interstate 81. The only excitement is the morons who don't clear the snow off their windows or lights. — Bob Fluck

I can leave the house a 5:45 a.m. and be clocked in and have time to socialize before taking report at 6. — Penny Kuzmeskus

About 4 hours per day. I now know every landmark on the New Jersey Turnpike. — Hyacinth Johnson

A 20 minute drive on city streets with little traffic. No stress. — Lonnie Frye

The distance from house to hospital is 21 miles - not bad for this area. — Sharon K. Gunnels

37 miles each way through country roads...wouldn't change a thing. — Kevin Stacy

Only about eight city miles. Actually an easy and enjoyable commute. — William S. Demaray

I live 28 miles east of Presbyterian Hospital of Dallas. I make this trip 3 days a week, as I work 12 hour days. — Mark Rose

35 miles each way. Not a bad commute, as it is all highway. — Jeffrey Davis

I live on the Chesapeake Bay, with a 50 minute commute to Southern Maryland Hospital. Most nights I really enjoy a great sunset ... — Howard Mc Donald

92 miles one way. Wonderful! 1.5 hours to get ready for the day and 1.5 hours to unwind before I get home. — Roger Berg

I recently returned to the night shift at the nearby community hospital. So, I've resumed bike commuting when the weather permits. It's about a 50 minute ride each way. But in the morning I often wish I could just be beamed home... — Jeff Whitnack, your Adult Acute Care Section editor ♦

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Continued from page 2

**ADVANCED MEDICAL TECHNOLOGY AND END OF LIFE ISSUES RELATED TO THE  
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To prepare the ventilator for cleaning I must strip down the ventilator...and do a quick wipe off of the entire machine, then call central supply for those folks to perform a more thorough cleaning. After the central supply technician wheels the ventilator away, my supervisor pages me to remind me of an in-service for a new ventilator that we are currently evaluating. As I sit down with my coffee and two donuts (supplied by the ventilator sales representative), I begin to ask myself, "Where are the physicians - should they not understand how this new ventilator works?" However, more importantly, I begin to wonder, "Will this new ventilator really help the critically ill or just prolong their agony?" ♦

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Continued from page 1

**AN EDITORIAL: DO WE NEED AN ADULT CRITICAL CARE  
SPECIALIST CERTIFICATION?**

the advanced credential becomes a role model, expert resource, and mentor; identifying and supporting potential candidates for advanced credentialing.

The precedent for this type of credential for respiratory therapists was set with the institution of the Neonatal-Pediatric Specialist (NPS) certification. Most of us working with the adult population accept and appreciate the breadth of difference between the pediatric and adult patient, and the value of an advanced credential for those who specialize in pediatrics and newborn critical care. That difference, coupled with the speed of technological advancement in the adult care arena, is why the implementation of an adult specialist credential is appropriate. ♦

**EDITOR'S NOTE:** Is there another side to this debate? Would you like to chime in in support of Bill's arguments? Please send any and all comments to the editor at the addresses/numbers listed on page 2.