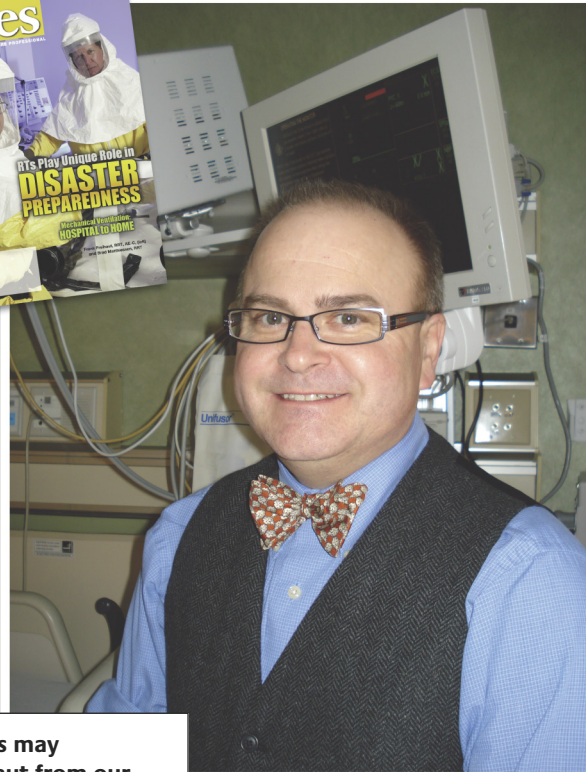


H1N1 Update: Lessons Learned at One Large Facility



As H1N1 influenza gripped the nation last fall, respiratory therapists working in the ICU were on the frontlines. Frank Freihaut, RRT, AE-C, of The Nebraska Medical Center in Omaha shares the top five lessons RTs at his facility took away from their experiences during the peak of the outbreak.

AARC Times readers may recognize Frank Freihaut from our August 2006 cover story about his role in The Nebraska Medical Center's Bio-Containment Unit.

1. We learned the importance of getting yourself vaccinated. Our first unit to care for H1N1 patients started having multiple nursing staff sick calls prior to our facility getting access to the vaccine. Though we were not successful at getting our entire respiratory therapy staff vaccinated (due to rationing of vaccine and some reluctant staff), we protected our high-risk personnel and a majority of our staff, thus reducing our sick calls significantly.
2. We stressed the importance of strict handwashing and personal protective equipment (PPE) use for all patient contact. We tried to capitalize on lessons learned in Canada during the severe acute respiratory syndrome (SARS) outbreak, which revealed that health care personnel often infected themselves when removing their isolation gowns and masks. We learned the benefit of having a special, *highly infectious disease* isolation unit at our facility.

There were too many H1N1 patients to simply isolate them in that unit. But RTs and nursing staff from the Nebraska Bio-Containment Unit took the lead in re-educating our staff on the use of PPE. We had a mandatory review of proper PPE use for all caregivers and environmental services staff. Our facility also stockpiled both N95 and procedure masks prior to this outbreak.

3. We had success with early evaluation of patient oxygen demands and use of the ARDSNet low tidal volume with balanced positive end-expiratory pressure (PEEP) approach to mechanical ventilation. Oxygenation demands far outweighed ventilation demands in these patients. Early identification and use of low tidal volume strategies helped keep these "ARDS" patients ventilated with proven, evidence-based param-

eters to reduce barotrauma/volutrauma. None of our mechanically ventilated H1N1 patients required chest tubes for pneumothorax. The use of lower tidal volumes can cause patient agitation, as they feel "air hunger." To reduce their agitation and oxygen demands, we utilized narcotics and sedation. One patient did require paralytics to control his extreme agitation. Overall their poor PaO₂/FiO₂ ratios did not respond in a couple of days but took many days, if not a week or two. In other words, have patience.

4. Respiratory therapists should stay familiar with high mean airway pressure modes of ventilation like APRV/BiVent, HFOV, or even high PEEP with low tidal volume strategies. Several patients required very high PEEP and mean airway pressures, and our use of APRV helped deliver these pressures. APRV and HFOV are both modes that utilize high mean airway pres-

sure to oxygenate but can be a challenge to the clearance of carbon dioxide. Since the H1N1 patients we treated tended to ventilate better than oxygenate, APRV had some success. Because the “bread and butter” of most ventilation is volume control, pressure control, or most often PRVC, specialty modes can force the average respiratory therapist to take a deep breath and review his skills. We learned again that RTs consistently accept and succeed at these challenges.

5. For certain patients, extracorporeal membrane oxygenation (ECMO) was a consideration. Our facility has a heart transplant program, performs significant heart surgeries, and is familiar with ECMO. A couple of our H1N1 patients had substantial cardiac morbidity. We did not consider ECMO for every H1N1 patient; but for those with a known cardiac history, ECMO use was an option that kept mechanical ventilation settings closer to normal. ECMO is invasive and has its own significant risks. Unless there were considerable cardiac issues, we utilized every option on the ventilator to treat most of our H1N1 pneumonia cases. ■

► Transitions

Frank Caminita, RRT, took second place in a recent national power-lifting competition, bench pressing an impressive 688 lbs. Caminita is a ventilation sales executive at Draeger Medical in Telford, PA. (Photo 1)

Maria Perkins, RRT, was recognized as a Circle of Excellence winner in 2009 for her “continuous compassion and dedication.” Perkins is a respiratory supervisor at Forsyth Medical Center in Winston-Salem, NC.



June Sorenson, CRT, a new Kentucky Society for Respiratory Care Board representative, has accepted new employment with National Sleep Therapy and Dr. Pam Coombs, sleep consulting in Lexington, KY. (Photo 2)

We welcome news about AARC members. Submit job changes, awards, and death notices online at www.AARC.org/transitions. ■

SIDS Linked to Decreased Levels of Serotonin

Boston investigators publishing in the Feb. 3 issue of JAMA have found evidence linking sudden infant death syndrome (SIDS) with decreased levels of serotonin (along with an enzyme involved in the synthesis of serotonin) in the brainstem. Specifically, serotonin levels were 26% lower in infants who died of SIDS than in control infants. The researchers believe these abnormalities may contribute to the infant's inability to respond to asphyxia or other life-threatening challenges during sleep. ■



National Health Observances

- **National Asthma and Allergy Awareness Month**; May; Asthma and Allergy Foundation of America; (800) 727-8462; www.aafa.org
- **Clean Air Month**; May; American Lung Association; (800) LUNG-USA; www.lungusa.org
- **Older Americans Month**; May; U.S. Administration on Aging; (202) 629-0724; www.aoa.gov
- **Asthma Awareness Month**; May; U.S. Environmental Protection Agency; www.epa.gov/asthma/awm
- **World Asthma Day**; May 4; Global Initiative For Asthma; www.ginasthma.com
- **World No Tobacco Day**; May 31; Pan American Health Organization; www.who.int/tobacco/wntd.en
- **Asthma Awareness Day Capitol Hill**; May 4; Allergy & Asthma Network/Mothers of Asthmatics; www.aanma.org