



## Emergency Medical Services *Partners*

December 2013, Issue 43

[uconnems.uhc.edu](http://uconnems.uhc.edu)

### CPAP for BLS

BLS providers in Connecticut may now apply continuous positive airway pressure (CPAP) to patients in severe respiratory distress while awaiting the arrival of paramedics or when paramedics are not available. The change in scope of practice was approved by the EMS Advisory Committee and the Commissioner of Public Health.



Canton Ambulance and East Windsor will be among the first services in the state to have their BLS providers utilizing CPAP. Providers must first complete the state approved training program. Treatment must be in compliance with sponsor hospital guidelines.

This applies only to ambulance services that have the approval of their EMS medical director.

### Indications for CPAP

Severe Respiratory Distress

- > Accessory muscle use
- > Hypoxemia despite oxygen therapy
- > Marked work of breathing
- > Inability to speak in full sentences

### Contraindications

- > Respiratory rate < 10 breaths/minute
- > Systolic Blood Pressure < 100 mmHg
- > Confusion: inability to understand and cooperate with application of CPAP
- > History of pneumothorax or recent trachea-bronchial surgery
- > Active nausea or vomiting (despite anti-emetic therapy if available)

### CPAP

CPAP is a safe effective treatment for patients in severe respiratory distress. It has been proven to save lives, reduce intubation rates and lower health care costs. The sooner CPAP is applied, the better the patient's outcome.



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*"Studies have shown that the use of CPAP prehospitally reduces the need for intubation by 30% and reduces mortality by 20%."*

– "Out of Hospital Continuous Positive Airway Pressure Ventilation Versus Usual Care in Acute Respiratory Failure: A Randomized Controlled Trial." *Annals of Emergency Medicine*. September 2008

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### How CPAP Works

CPAP puts more air into the lungs. It delivers a predetermined high level of pressure. Pressure pushes the oxygen to distal airway structures. By preventing atelectasis (collapse of alveoli) more alveoli are available for gas exchange. CPAP overcomes constricted airway resistances and increases airflow. In patients with CHF, fluid in the alveoli inhibits gas exchange. CPAP moves fluid back into vasculature decreasing fluid overload and work of breathing. The pneumatic splint of CPAP prevents the patient from having to exert energy themselves to breathe.

### UConn Fire Department Experience

UConn Fire Department paramedics used CPAP 23 times over a one year period.

There were 21 documented positive results. One patient did not improve with CPAP and required intubation. One patient had CPAP applied shortly before arriving at the hospital

so no change in condition was noted in the prehospital run form. Only one adverse side effect was documented. One patient became hypotensive which improved with lowering CPAP pressure from 10 to 7.5.



## Cardiac Arrest Save!

**American Medical Response** paramedic James Bergen and his partner Steven Teiger, along with responders from the **Avon Police Department** found a 69-year old female collapsed in her kitchen. They initiated CPR, and finding the woman in ventricular fibrillation defibrillated her. Several minutes later, they had restored pulses and a blood pressure. Paramedics John Pickert and Eric Colantonio from the **UCONN Fire Department** arrived to assist. They sedated and intubated the patient and transported her to John Dempsey Hospital, where she went to the cardiac cath lab and also underwent induced hypothermic therapy to preserve brain function. We are happy to report thanks to the great efforts of our EMS system and the care she received at **John Dempsey Hospital**, she made a full neurological recovery and was discharged. Great work team!



## STEMI Kudos—Early Notification

Great work by **UCONN Fire Department** paramedics Michael Alger, John Martinez, Joe Speich, **American Medical Response** paramedic Steve De-caupua, and **Bristol EMS** paramedic Betsy Austin for their early identification and notification of STEMI patients last month. The medics provided lead times of 20, 14 and 10 minutes, enabling John Dempsey Hospital to preactive the cardiac cath lab prior to the patients' arrivals. **Door-to-balloon times were 33, 40 and 45 minutes — all on weekends.** The patients all had excellent outcomes, and are home with their families with heart functions largely preserved thanks to the great job by our area paramedics. Early Notification Saves Lives!



## UCONN Health Center EMS Web Site

For news, educational information, CME schedule and past copies of our newsletter *Partners*, check out our web site at:

[uconnems.uchc.edu](http://uconnems.uchc.edu)

## December PM EMS CME



### Respiratory Emergencies CPAP For All Levels of Provider:

Richard Kamin, M.D.

#### Research Review:

Latest EMS Research – Prehospital Induced Hypothermia, Epinephrine Dosing Intervals in Cardiac Arrest, Pediatric Anaphylaxis  
Peter Canning Paramedic, R.N.

December 11, 2013 (Wednesday)

7:00 P.M.

Keller Auditorium

Pizza and soft drinks at 6:45 P.M.

All EMS Responders and general public are welcome!

Park at top of hill.

Enter main door, take escalator down one floor.

3 Hours CME

For Questions email Peter Canning at [canning@uchc.edu](mailto:canning@uchc.edu)

**ALL EMS RESPONDERS AND  
GENERAL PUBLIC WELCOME**

## December AM EMS CME



### Respiratory Emergencies: CPAP For All Levels of Provider

Richard Kamin, M.D.

#### Case Reviews:

Richard Kamin, M.D.

#### Journal Review:

*Effect of Prehospital Induction of Mild Hypothermia on Survival and Neurological Status Among Adults With Cardiac Arrest:*

*A Randomized Clinical Trial.* JAMA. 2013 Nov 17

Peter Canning Paramedic, R.N.

December 18, 2013 (Wednesday)

8:30 A.M. – 11:30 A.M.

East Farms Fire Department

94 South Road, Farmington, CT

## CONTACT US:

Any questions or suggestions about EMS? Looking for patient follow-up?



Contact EMS Coordinator Peter Canning at [canning@uchc.edu](mailto:canning@uchc.edu) or call (860) 679-3485.