



# PENNSYLVANIA EMERGENCY HEALTH SERVICES COUNCIL

*Your Voice In EMS*

## RECOMMENDATION FOR CONSIDERATION

Board Meeting Date: October 24, 2012

Subject: Portable Carbon Monoxide Detectors

VTR#: 1012-01

Committee/Task Force: Medical Advisory

Recommended Goal

Recommended Policy Change

Other:

### **Recommendation:**

The Pennsylvania Department of Health should amend the list of "Required Ground and Air Ambulance Equipment and Supplies" in FY 2014 to include one (1) portable carbon monoxide detector for each [ground-based] licensed EMS vehicle. The CO detector should be carried on board the [ground-based] licensed EMS vehicle in a manner that ensures it is present when an EMS provider(s) enter a structure or situation where they could be exposed to carbon monoxide (e.g., on a primary piece of portable equipment).

### **Rationale [Background]:**

Carbon monoxide exposure is the most common type of poisoning in the United States. This colorless, odorless gas is a byproduct of incomplete combustion of carbon-based fuels. Due to its elusive characteristics and non-specific symptoms, detection is difficult without a monitoring device. Consequently, both patients and EMS providers are at increased risk of harm when exposed.

A review of a series of case studies involving carbon monoxide encounters by EMS providers, in which carbon monoxide was not suspected, revealed the portable CO detectors carried by the crew alerted them to the potentially hazardous environment<sup>1</sup>. These small devices, typically the size of a pager, were carried within or attached to a primary piece of medical equipment (e.g., first-in bag, etc.). A CO detector has an average service life of three (3) years at the end of which the sealed unit is replaced. Depending on the brand being used, some devices require periodic inspection and calibration to ensure accuracy.

Through the use of portable CO detectors, early detection of the presence of carbon monoxide allows EMS personnel to evacuate patients (and themselves) from the hazardous environment and begin appropriate evaluation and treatment. A survey of regional EMS councils by PEHSC provided numerous anecdotal reports of carbon monoxide detector activations in residential and commercial/industrial settings; one region reported a detector activated inside an ambulance station - the result of a faulty heating unit.

### **Medical Review [Concerns]:**

The Medical Advisory Committee believes undetected carbon monoxide exposure is a potentially serious life-threat for both patients and EMS personnel and unanimously supports this recommendation.

**Fiscal Concerns:**

PEHSC conducted a survey of the regional EMS councils regarding CO detector bulk purchase initiatives. Nine of sixteen (56%) councils responded to the survey and all respondents indicated they have led bulk purchase initiatives in their region. The depth of the initiatives varied among the respondents; some provided a detector for each licensed unit or one device per agency; some provided a detector to only units with a primary 911 response area; one region provided devices for both licensed vehicles and recognized QRS vehicles.

There were 1945 units purchased by the respondents at an average cost of \$165.00 each (\$320,925.00). Currently there are 4219 licensed EMS vehicles operating in Pennsylvania<sup>ii</sup>. In order to equip the entire active fleet, based on the number of units already purchased, 2,274 additional units would need to be acquired at an approximate cost of \$375,210.00 (or less if agencies purchased detectors in addition to regional bulk purchase programs). Recurring costs include replacement of detectors that have reached the end of their service life and devices that are determined to be faulty or inaccurate.

**Educational Concerns:**

Agency-level education should include, but not be limited to:

1. General detector operation.
2. Maintenance or periodic testing (if applicable).
3. Procedure to follow in the event of detector activation.
4. Reference to appropriate statewide EMS treatment protocol.

**Plan of Implementation:**

The Department of Health should:

1. Serve notice in the Pennsylvania Bulletin in FY 2014 amending the list of "Required Ground and Air Ambulance Equipment and Supplies" to include one (1) portable carbon monoxide detector for each [ground-based] licensed EMS vehicle.
2. Publish an EMS Information Bulletin/RC Memo regarding the addition of the CO detector to the equipment list and provide guidance on how the device should be carried on the [ground-based] vehicle (should be carried on board the licensed EMS vehicle in a manner that ensures it is present when an EMS provider(s) enter a structure or situation where they could be exposed to carbon monoxide (e.g., on a primary piece of portable equipment).
3. Assist EMS agencies with the purchase of these devices through direct EMSOF funding or their regional bulk purchase initiatives.

The PEHSC Committee/Task Force offers consultation to the Department in regard to the content of this Vote to Recommend (VTR) and its attached documents. The PEHSC Committee/Task Force specifically offers staff or member support to participate in Department deliberations regarding this recommendation in an effort to convey committee/task force discussions.

**Board Meeting Comments/Concerns:**

Signed: J David Jones President JAS Date 11-12-12

For PEHSC Use Only – PA Department of Health Response

Accept: X      Table:           Modify:           Reject:

Comments:

Date of Department Response: \_\_\_\_\_

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<sup>i</sup> Risavi DO, Brian L., Wadas MD, Richard J., Thomas MD, Cecil, Kupas, Douglas F. A Novel Method For Continuous Environmental Surveillance For Carbon Monoxide Exposure To Protect Emergency Medical Services Providers and Patients The Journal of Emergency Medicine. (Publication Pending)

<sup>ii</sup> Information provided by PA Department of Health, Bureau of EMS

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