

What to Do About Medication Shortages

Guidelines from the State EMS Medical Director

In recognition of recent medication shortages, the Office of the State EMS Medical Director would like to address strategies that will allow EMS providers to continue to administer the correct dosage of medication for their patients. These medication shortages have been variable in severity, length of shortage, and impact on the system.

During times of shortage, some medications are being provided in alternative forms or concentrations rather than the pre-loaded emergency syringes that are usually available to EMS. These medications include atropine, calcium chloride, epinephrine 1:10,000, dextrose 50%, lidocaine 2%, naloxone, and sodium bicarbonate. Note that this is not an all-inclusive list. Some of these medications are now being supplied as vials, pre-mixed bags, or ampoules in a concentration different from the emergency pre-loaded syringe form.

The *Maryland Medical Protocols for EMS Providers* defines the dose of a medication given to patients but generally does not specify the type of container or concentration. Therefore, the medications being supplied in alternative forms (vials, pre-mixed bags, ampoules) are acceptable substitutes for

medications typically supplied in pre-loaded emergency syringes. EMSOP leadership must ensure awareness and training for all personnel on how to deliver the correct dose of the medication when using these alternative concentrations.

For the specific case of **dextrose**, pre-loaded dextrose 50% (D50) syringes contain 25 grams of dextrose in 50 mL of water (0.5 grams/mL). In the case that D50 syringes are unavailable, the substitutes in the following descending order of favor should be pursued:

- Dextrose vial or pharmacy provided preloaded syringe (contains same concentration as D50 syringes, which will require drawing with a needle into 50 or 60 mL syringe)
- Dextrose in alternative concentration (with a sterile IV bag of D10W, giving 250 mL of this fluid for an adult patient delivers 25 grams of dextrose)
- Oral glucose paste per protocol (BLS pharmacology section; place between the gum and cheek)
- Glucagon IM per protocol (ALS pharmacology section)

For the specific case of **epinephrine**, if a provider must administer 1:1,000 (1 mg/mL) for cardiac arrest or anaphylaxis, it shall first be diluted to epinephrine 1:10,000 (0.1 mg/mL). To accomplish this, the provider will draw up 1 mL of epinephrine 1:1,000 and 9 mL of Lactated Ringer's (alternatively Normal Saline permitted) solution in the same syringe. The medication is now diluted to 0.1 mg/mL (equivalent to 1:10,000) and ready for IV administration. This will increase the time needed to administer the medication; however, **the provider must dilute the medication**, as this is the only safe way to administer it. **Epinephrine 1:1,000 must never be administered IV in an undiluted form.**

Please do not hesitate to contact the Office of the State EMS Medical Director at 410-706-0880 if you have any questions or concerns.

Richard L. Alcorta, MD, FACEP
State EMS Medical Director

Have You Heard of the Dale Long Act?

Changes in Federal Law May Affect You and Your Family

The official name of the new law is the Dale Long Emergency Medical Service Providers Protection Act, and it was passed in January 2013. But what does this mean for you? This new law amends a current federal law, 42 USCS § 3796b, that provides death and disability benefits for public safety officers. The Dale Long Act is named in honor of an EMT from Bennington, Vermont, who was tragically killed in an ambulance crash in 2009.

Until this year, only public safety officers employed by federal, state, and local government entities were eligible for benefits through the Public Safety Officers' Benefits (PSOB) program. However, the Dale Long Act amended that law so that in addition to paid providers, certain volunteer public safety officers may also be eligible for benefits for catastrophic injuries sustained in the line of duty on or after June 1, 2009. Families of public safety officers killed in the line of duty may be eligible for death benefits.

For more information about the PSOB program, visit www.psob.gov. Information about the Dale Long Act and the PSOB program will be uploaded to the PSOB website soon. In the meantime, you can read bill that became the Act here: <http://www.gpo.gov/fdsys/pkg/BILLS-112s385is/pdf/BILLS-112s385is.pdf>.

ALS Providers: Renew Online!

ALS online renewal is now open through the provider login portal on www.miems.org. If you need access to the portal or have any difficulty renewing, contact the Office of Licensure & Certification at 410-706-3666 or 1-800-762-7157. We highly encourage you to utilize this online process for renewal. It's easy and fast! Turn-around time for renewals done online is much faster than those sent by snail mail. To ensure timely processing, **renewal requests must be submitted by April 15, 2013.**



Talbot County Department of Emergency Services Presents CPR Marathon

Free CPR and AED Training Provided in Recognition of American Heart Month



In honor of American Heart Month, the Talbot County Department of Emergency Services (DES) encourages you to learn how to save a life by taking a cardiopulmonary resus-

citation (CPR) course and learning how to use an automated external defibrillator (AED).

On February 27, 2013, free CPR and AED training will be offered on the hour beginning at 9:00 AM with the last class starting at 7:00 PM. To register, call the Talbot County DES at 410-820-8311. Training will take place at the Talbot County Community Center, 10028 Ocean Gateway, Easton, Maryland.

This free CPR and AED training is sponsored by Shore Health System, Talbot County Chamber of Commerce, WCEI/WINX FM, Star Democrat, Talbot County Health Department, Talbot County Volunteer Fire and Rescue Association, and Talbot County Paramedic Foundation.

Clay Stamp, the Director of Emergency Services for Talbot County explains, "It is criti-

cally important in the case of sudden cardiac arrest to access the 9-1-1 system immediately... every minute counts." He further stated, "The bottom line is the data is clear. By having a community trained in CPR with access to AEDs the survival rate for sudden cardiac arrest improves significantly, and it is our goal to train as many in our community as we can."

Please do not pass up this opportunity to get this free, life-saving training. If you are already certified in CPR and know how to use an AED, please pass this information on to others. The life they save could be yours.

Summary of Changes to the Maryland Public Access AED Regulations

Became Effective January 7, 2013

In an effort to simplify the Maryland Public Access AED regulations to make them as user-friendly as possible, while still maintaining the necessary safeguards that are a key part of the Program, the Maryland Public Access Automated External Defibrillator Regulations (COMAR 30.06.01-05) have been revised. The revised regulations became effective January 7, 2013.

Maryland Public Access AED Programs are still required to register with MIEMSS and should be aware of the following changes to the Maryland Public Access AED Program:

- MIEMSS no longer approves AED Training Programs for the Maryland Public Access AED Program. AED Program Coordinators and any expected operators shall complete a CPR and AED Training Course and refresher training that, at a minimum, teaches the curriculum in the most current American Heart Association Guidelines for CPR and Emergency Cardiovascular Care. Facilities should verify that the training program they are going to complete meets this requirement.
- AEDs must be placed in locations where they are clearly visible and available for use by anyone who is willing to respond. AEDs should never be kept locked or restricted from use by anyone, including untrained individuals. Facilities that currently have AEDs locked or labeled "For use by trained personnel only" must comply with the newly revised regulation requirement by making the AED visible and available for use by anyone who is willing and able to do so.
- MIEMSS-required equipment inspections have been changed from weekly to monthly. Any manufacturer recommended maintenance must also be adhered to.

In addition to the regulatory changes to the Maryland Public Access AED Regulation summarized above, MIEMSS also strongly encourages facilities with frequent visitors under the age of 8 years old to include pediatric electrodes (chest pads) in their equipment kits along with adult electrodes.

Questions may be directed to Lisa Myers at lmyers@miemss.org or 410-706-4740.

NFPA Standard 1917 Open for Public Comment

National Fire Protection Association (NFPA) Standard 1917, *Standard for Automotive Ambulances*, is open for public input until July 8, 2013. The NFPA recently implemented an electronic system for submitting and processing public input. Visit <http://bit.ly/NFPA1917> to submit your comments. The 1917 Committee will consider submissions as well as recently completed NHTSA testing of seat belts, seats, and stretcher mounts in revising the just-released standard.

Upcoming Conferences

11th Annual Miltenberger Emergency Services Seminar

April 5 & 6, 2013

Wisp Resort, McHenry, MD

Registration and information available at <http://bit.ly/Miltenberger2013>

EMS Care 2013

Ridin' the Wave

May 1 – 5, 2013

Ocean City, MD

Registration and information available at <http://bit.ly/EMSCare2013>

Another Successful Winterfest EMS 2013

For the 16th consecutive year, Talbot County Emergency Services organized a very successful Winterfest EMS 2013 supported by several generous sponsors. Over 150 participants attended the January 26-27 conference.

In addition, 50 students successfully completed one of two skills classes for EMTs held January 24 and 25 and Maryland EMS for Children brought the stork to Tilghman, where instructors taught a full class about best practices for "When the Stork Dials 9-1-1: Managing OB and Newborn Emergencies."

Dr. Robert R. Bass, MIEMSS Executive Director, kicked off the conference with a detailed update on what's happening at the agency. Next, paramedic, artist, and humorist Steve Berry set the tone for a positive and pro-

ductive two days of EMS education. Breakout sessions included talks about Critical Incident Stress Management (CISM), aquatic emergency situations, pediatric puzzles, Maryland's new medevac helicopters, and much more.

Talbot County Emergency Services wishes to thank all of its sponsors and all of the outstanding educators for taking time to lecture and educate EMS Providers from throughout the state.

Winterfest EMS 2013 sponsors:

Shore Health System
Maryland Institute for

Emergency Medical Services Systems
R Adams Cowley Shock Trauma Center
Maryland EMS for Children
Cardiac Science

Fesco Emergency Sales
Fire Chasers Fire Equipment
Henley Board Co.
Medical Claim Aid
Physio-Control, Inc.
Southeastern Emergency Equipment
Stryker
Zoll Medical



Dr. Tom Chiccone, MIEMSS Region IV Medical Director, talked to his class at Winterfest EMS 2013 about the Evolution of Trauma Resuscitation and future trends in the care of trauma patients.



Life Begins and Ends at the Cellular Level was presented at Winterfest EMS 2013 by NREMT-P Charlie Brown. His presentation included a detailed look at how various components, such as infections and medications, affect the microscopic world inside every body.



Dr. Robert R. Bass, MIEMSS Executive Director, presented What's Happening at MIEMSS, a Detailed Overview during which he discussed key initiatives and provided an overview of trauma and specialty centers, the state's medevac program, the Ambulance Safety Task Force Report, and more.



Steve Berry, BA, NREMT-P, invited Winterfest EMS 2012 attendees to find "humor in the crazy world of EMS," while maintaining a sense of hope and compassion. Mr. Berry, a nationally known EMS humorist and columnist, was the keynote speaker at this year's event.

Save the Date! Safe Transport of Children in Ambulances Webinar

This past fall, the National Highway Traffic Safety Administration (NHTSA) released recommendations for the *Safe Transport of Children in Emergency Ground Ambulances* from the scene of a traffic crash or medical emergency. The application of these guidelines will be covered in an upcoming webinar sponsored by MIEMSS' EMS for Children:

Safe Transport of Children in Ambulances Thursday, March 28, 12 NOON – 1 PM

Participants in the webinar will learn the five different situations that guide the choice of transport vehicle and restraint system. They will observe video demonstrations of the correct use of restraint systems including the Ferno Pedi-Mate, the SafeGuard Transport, the Radian R120 car seat, the DreamRide Car Bed, the Pediatric backboard, and an off-the-shelf convertible car safety seat. The videos and photos will show how a child is properly secured in each restraint system as well as how the restraint is secured to the stretcher.

To register for this webinar, email cps@miemss.org. Child Passenger Safety Technicians (CPSTs) are eligible to receive



Pictured above, members of the team are filmed and photographed in MIEMSS's Baltimore studio for the webinar.

1 CEU for recertification by listening to this webinar, with the option of an additional 2 CEUs for a follow-up hands-on session. EMS Providers will be eligible to earn 1 hour of EMS Credit (Trauma/ BLS) by listening to this webinar. Additional continuing education will be available in workshops at regional conferences in 2013-2014.

Filming for this webinar took place at MIEMSS in mid-February with the help of some great little model-patients. In addition, special thanks to the following Providers for their time: Jeffrey Joy and Danielle Dunn from St. Leonard Volunteer Fire-Rescue and Alonzo Goodwin and Judi Ulsch from LifeStar Response.

2013 Stars of Life and Right Care When It Counts Awards Nominations Sought

Each year, MIEMSS awards Maryland citizens and providers by honoring those who have contributed to the EMS system and recognizing children who have identified an emergency and contacted 9-1-1. Nominations for MIEMSS EMS Stars of Life Awards and EMSC Right Care When It Counts Awards are now being accepted. Incidents and activities that occurred between January 1, 2012, and December 31, 2012, are eligible for submission. Nomination forms are available online at www.miemss.org under the "What's New" heading, then "Maryland EMS." The Right Care When It Counts webpage also has a link to its nomination form (www.miemss.org/EMSCwww/RightCare.html). Awardees are selected by a statewide committee of career, volunteer, and commercial EMS providers.

Nominations will be accepted for both sets of awards until April 1, 2013.

There are three ways to submit nomination forms:

1. Open the PDF document and complete the application. Print and then fax it to the MIEMSS Educational Support Services Office at 410-706-3485.
2. Open the PDF document while on a laptop or computer that is connected to the internet; complete the application and then click on the SUBMIT button.
3. Open the PDF document and complete the application. Save the document under a unique name and then email it to awards@miemss.org.



At the 2012 Maryland Stars of Life Awards Ceremony, EMT-P Charles Arcadipane (right) was presented with MIEMSS's highest honor, the Leonard W. Hayes Award, by MIEMSS Executive Director, Dr. Robert R. Bass.

Team of MIEMSS Personnel and Volunteers Conduct Patient Tracking at Presidential Inauguration

The 57th Presidential Inauguration took place on Monday, January 21, 2013. Along with thousands of attendees, MIEMSS staff and volunteers braved cold temperatures in Washington, DC, to provide support for the day's activities.

Team members were assigned to medical aid tents throughout the mall and parade route to assist with patient tracking. Handheld scanners were provided to scan triage tags and enter patient data into the HC Standard® System, a patient tracking and critical asset software solution developed by Global Emergency Resources, LLC, based in Augusta, Georgia.

Using these handhelds allowed multiple agencies to integrate their data into one streamlined system for patient tracking and syndromic surveillance. Every patient contact was recorded and plotted in each of the three emergency operations centers established for Inauguration event tracking and management. These data were also used to help the American Red Cross with family reunification and missing person's reports. Over 340 patients were tracked throughout the day and just fewer than 300 were scanned directly into the system with the handhelds.

This large-scale use of the Patient Tracking Handhelds and HC Standard® was a great success. Patients arriving at a medical aid station could be entered into the system, tracked through triage, treatment, and transport or release. This flow of data allowed for a significant increase in situational awareness and enhanced communications between various agencies and organizations. Regular reports were produced to inform incident commanders of the status of the medical resources in the field. These data were also merged with emergency department information and additional systems from the US Department of Health and Human Services and military aid stations to perform syndromic surveillance throughout the day.

These handhelds were also used for other major events during the Inauguration, including the Inaugural Ball, the Presidential Candlelight Reception, and the Inaugural Prayer Service. The hope is that these handhelds will be used in the future to allow for

expedited, efficient patient triage and tracking during medical surge, large-scale events, and mass casualty incidents. From all the Inaugural events, 488 patients were encountered.

It would have not been possible to achieve such a supply of data or increased situational awareness without the hard work and long hours put in by the following volunteers. Their support during the Inauguration and willingness to provide feedback after the event are greatly appreciated. MIEMSS would like to say a very special thank you to:

Baltimore County

Kenny Anderson

Cecil County

Jessica Andrews

David Barr III

Jeffery Urbanik

Montgomery County

William Cooke

Eric Ramacciotti

NACCHO

Lilly Kan

Sarah Keally

Abby Olson

Rachel Schulman

Susan Wherley

Saint Mary's County

Gary Easley

James Fretwell

Nicholas Harrison

Robert Kenney

Caroline County Appoints New EMS Medical Director

Jon R. Krohmer MD, FACEP, has been appointed to the position of EMS Medical Director by the County Commissioners of Caroline County. The Medical Director is a part-time position responsible for the medical oversight of the local Emergency Medical Services Operational Program (EMSOP), including credentialing, medical quality assurance, education, and planning. The Medical Director also collaborates with the County Department of Emergency Services and volunteer fire and EMS leadership to enhance the delivery of emergency medical services within the county.

Dr. Krohmer comes to Maryland from Michigan where he served as an Attending Physician and Director of EMS for the Department of Emergency Medicine at Spectrum Health Butterworth Campus in Grand Rapids, EMS Medical Director for Kent County (Michigan), and faculty member of Michigan State University of College of Human Medicine. He currently works for the US Department of Homeland Security. Dr. Krohmer will take up his position as EMS Medical Director in Caroline County by the end of February 2013.



Jon R. Krohmer MD, FACEP, pictured, has been appointed as the EMS Medical Director for Caroline County. Photo courtesy of Caroline County Emergency Services.

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Governor Martin O'Malley
Lt. Governor Anthony Brown

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