



EMS Information Bulletin- #035

DATE: December 23, 2005

SUBJECT: 2005 American Heart Association Guidelines

TO: EMS Practitioners
Ambulance Services
Medical Command Facilities and Physicians
EMS Medical Directors, including AED Medical Directors
EMS Training Institutes

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The Pennsylvania Department of Health Emergency Medical Services Office (EMS Office) will be incorporating the important changes from the 2005 American Heart Association (AHA) resuscitation guidelines into Pennsylvania's EMS system. The Department understands that it is important to rapidly incorporate the evidence-based changes into the protocols, but it is also equally important to provide adequate time for personnel to receive education and training and for systems to meet new equipment requirements. Protocols, BLS skills sheets, EMT/Paramedic course curriculum and testing materials, the scope of practice document, and other resources will need to be updated on a timeline that integrates all of these aspects of EMS care.

Some of the significant changes in the 2005 AHA Guidelines are currently incorporated into the Statewide BLS Protocols that became effective in 2004. Examples of these include:

- ❑ The Statewide protocols already recommend ventilating intubated cardiac arrest patients at 8-10 breaths per minute (or a breath every 6-8 seconds), continuing training will be needed to ensure that this actually occurs on every patient in the field.
- ❑ The Statewide protocols already caution practitioners to avoid hyperventilation.
- ❑ A pediatric patient is currently defined as ≤ 14 years of age in some of our existing protocols.
- ❑ The Statewide stroke protocol incorporates the Cincinnati Stroke Scale for assessment and contact with medical command to assist in determining destination of these patients.

The following changes and updates will be implemented as outlined below:

- Recommendations from the 2005 AHA Guidelines along with other needed updates will be included in the annual revision of the Statewide BLS Protocols. These revisions of the Statewide BLS Protocols will be posted on the EMSO website (www.health.state.pa.us/ems) and distributed to EMS regions in the first quarter of 2006. Services and personnel that have reviewed the protocol changes may use them as soon as the revised document is available, however, a grace period in the effective date before all EMS services and personnel are expected to follow these revised protocols will be observed. The important changes will include:
 - 30:2 compression to ventilation ratio for CPR
 - Permitting the use of an AED (adult or pediatric) on all cardiac arrest patients over the age of 1 year without the current requirement to contact medical command first.
 - Changing the AED algorithm to include a single shock before CPR rather than the current 3 stacked shocks, and clarifying the AED energy settings for monophasic and biphasic devices.
- Drafts of the Statewide ALS Protocols are currently posted on the EMS Office website. Along with input from EMS stakeholders, many of the recommendations from the 2005 AHA guidelines will be incorporated into these drafts as revisions are completed. The stakeholder comment period for the ALS protocols remains open through January 31, 2006. Comments on the proposed Statewide ALS protocols may be submitted in writing to the regional EMS councils, the EMS Office or electronically to paemsoffice@state.pa.us. After the AHA guidelines are incorporated, regions will be permitted to adopt these Statewide ALS Protocols as regional protocols, all regions must adopt the new protocols by the anticipated effective date of January 1, 2007.
- The following changes will be made to the prehospital practitioner scope of practice effective upon publication in the Pennsylvania Bulletin:
 - Inspiratory Impedance Threshold Device: This device will be added to the prehospital practitioner scope of practice at the ALS level. These devices may be used by a service after the approval of the service medical director and after personnel are appropriately educated in the use of the device.
 - Intranasal medication administration: This route of administration for appropriate medications included on the approved drug list. Will be added to the prehospital practitioner scope of practice at the ALS level in order to clarify this issue in the scope of practice.
- The 2005 AHA guidelines for ACLS encourage the use of intraosseous infusion of medications in both adult and pediatric patients if intravenous access cannot be obtained. Endotracheal administration of medications is less effective than IV or IO, and the endotracheal route is discouraged unless there is no other option.

The EMS Office would like to clarify that intraosseous access of the tibia or femur are currently within prehospital practitioner scope of practice at the ALS level, and there are no age limits on the use of this technique. ALS services are permitted to carry equipment for intraosseous access, and any FDA-approved device may be used for this purpose (e.g. manual needle IO, spring-loaded devices, or drill type devices). The service medical director must approve any IO device used by an ALS service, and all ALS personnel must be educated on the use the device. ALS personnel may use IO devices when following Department-approved protocols or an order from a medical command physician. Sternal intraosseous access is not within prehospital practitioner scope of practice for EMT-paramedics.

Many other issues will be addressed as EMS stakeholders and the EMS Office continue to review the 2005 AHA Guidelines. Practitioners must continue to follow Department-approved regional protocols and the Statewide BLS protocols until these considerations have been adequately reviewed by the EMS Office, the regional EMS councils, regional Medical Directors and the Medical Advisory Committee of the Pennsylvania Emergency Health Services Council. The following list includes some of the issues that will be addressed in the future:

- ❑ Determination of a reasonable timeline to reprogram all AEDs to match the new recommendation for one shock at a time, 2-minutes of CPR between shocks, and new energy settings.
- ❑ Work with PEMA and dispatch centers regarding recommendation for dispatcher-assisted aspirin in possible cardiac chest pain.
- ❑ Consider whether inspiratory impedance threshold devices should be added to the BLS scope of practice.
- ❑ Consider requiring wave-form ETCO₂ as required equipment for all ALS ambulances.
- ❑ Consider whether protocols should recommend 2 minutes of CPR before AED use when patient has not collapsed within 5 minutes of EMS arrival.
- ❑ Consider whether BLS personnel should be permitted to use mechanical CPR devices. These are currently only within the scope of practice of ALS practitioners.
- ❑ Addition of a post-resuscitation protocol to the Statewide ALS Protocols.

Please forward any questions or concerns regarding this information to the attention of the EMS Education and Clinical Systems Manager at paemsoffice@state.pa.us