TOP TEN THINGS TO KNOW
Pre-Hospital ECGs in ACS Management

1. The AHA recommends that emergency medical services (EMS) acquire and use PH ECGs to evaluate patients with suspected acute coronary syndrome (ACS).

2. While morbidity and mortality are patients with ST segment elevation MI (STEMI) have occlusive coronary artery thrombus formation; but PH ECGs are used in fewer than 10% of patients with STEMI.

3. EMS providers can rapidly acquire diagnostic-quality PH ECGs with an average increase of 5 to 6 minutes in the on-scene time interval.

4. Ischemic injury, can be divided into 4 time intervals: (1) symptom onset-to-EMS arrival; (2) EMS arrival-to-hospital arrival; (3) hospital arrival-to-ECG; and (4) ECG-to-reperfusion.

5. Implementation of PH ECGs would eliminate the 3rd time interval (hospital arrival-to-ECG) and reduce the 4th time interval (ECG-to-reperfusion) as advanced notification to the hospital would allow time for preparation of the cath lab.

6. The delay from patient contact with the healthcare system (arrival at the ED or contact with paramedics) to initiation of fibrinolytic therapy should be less than 30 minutes. Alternatively, if PCI is chosen, the delay from patient contact with the healthcare system (typically, arrival at the ED, or contact with paramedics) to balloon inflation should be less than 90 minutes.

7. Models for interpreting PH ECGs include the following: Computer algorithm interpretation, Paramedic interpretation, and Wireless transmission and physician interpretation.

8. The essential components of an integrated health system of care incorporates EMS personnel, PCI hospital capabilities (e.g., prehospital triage activation of catheterization laboratory, and mechanisms to assess quality improvement.

9. Various locals (e.g., Boston, Los Angeles, North Carolina, and Ottawa, Canada) have begun implementing PH ECG programs.

10. The AHA is addressing the widespread implementation of PH ECGs through Mission: Lifeline, a national initiative launched in 2007 to improve systems of care for patients with STEMI.