12-Lead ECG

Paramedic Protocol (may be Specialist or EMS per MCA selection)

Aliases: EKG, 12 lead

Indications:

1. A 12-lead ECG is indicated on patients exhibiting any of the following signs/symptoms:
    A. Chest pain or pressure
    B. Upper abdominal pain
    C. Syncope
    D. Shortness of breath
    E. Pain/discomfort which are often associated with cardiac ischemia:
        a. Jaw, neck, shoulder, left arm or other presentations; unless no other symptoms exist and the cause of the specific pain can be identified with a traumatic or musculoskeletal injury.
        b. If there is any doubt about the origin of the pain/discomfort, or the presentation seems atypical for the mechanism, a 12-lead should be performed.

2. Patients exhibiting the following signs/symptoms should have a 12-lead ECG performed if the etiology of the illness is indicative of an Acute Coronary Syndrome or the etiology of the illness is indeterminate:
    A. Nausea
    B. Vomiting
    C. Diaphoresis
    D. Dizziness
    E. Patient expression of “feelings of doom”

3. A 12-lead ECG may be performed based on the clinical judgment of the paramedic even in the absence of the above signs/symptoms.

Procedure:

1. Follow **General Pre-hospital Care-Treatment Protocol.**

2. Perform 12-lead ECG per manufacturer guidelines, if available.

MCA approval to obtain ECG
- ☑ Specialist
- ☑ EMT

MCA approval to transmit ECG (and notify of STEMI)
- ☑ Specialist
- ☑ EMT

MCAs will be responsible for maintaining a roster of the BLS and LALS agencies choosing to participate and will submit roster to MDHHS

3. Report if acute MI is suspected, either by device or paramedic provider interpretation and promptly relay either the 12-lead findings via MCA approved communications system or transmit 12-lead to the receiving facility.

4. Agencies in cooperation with hospitals with pre-hospital 12-lead ECG receiving capability should have the relay done electronically as soon as possible for the following conditions:
   A. ST elevation ≥1mm in 2 contiguous leads.
   B. Chest pain patient with left bundle branch block.
   C. EMS personnel request assistance by hospital for interpretation of ECG.
   D. Hospital requests ECG be sent.

5. The Acute MI Report relayed to the receiving facility should include the following:
   A. *** **Acute MI Suspected** *** or equivalent machine indication of Acute MI.
   B. Location of MI, “ST elevation, consider _____injury”.
   C. Time of onset of the chest pain if present.
   D. Current level of pain.
   E. Cardiac history (previous MI, CHF, CABG, Angioplasty or Stent).
   F. Presence of possible indicators of false positive ECG (tachyarrhythmia, left bundle branch block, pacemaker, wide complex QRS, positive ECG with artifact after previous negative ECG).

6. Transport patients per MCA transport protocol.

7. Repeat 12 Lead is indicated for prolonged transports or changes in condition.