

**REGION I-KCH EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Paramedic**

Procedure: 12 Lead ECG Acquisition

Overview: Obtaining 12- Lead ECG's in the prehospital setting for the patient with a suspected acute cardiac event can be one of the most valuable pieces of information for the ED to determine the clinical path for that patient. Care must be taken to avoid unnecessary extension of scene time.

INFORMATION NEEDED

- level of patient's chest pain
- patient vital signs

OBJECTIVE FINDINGS

- | | |
|---|--|
| <input type="checkbox"/> Chest Discomfort | <input type="checkbox"/> Confusion |
| <input type="checkbox"/> Dyspnea | <input type="checkbox"/> Stroke |
| <input type="checkbox"/> Syncope | <input type="checkbox"/> Epigastric Pain |
| <input type="checkbox"/> Diaphoresis | <input type="checkbox"/> Radiating Pain |

PROCEDURE

- Press "ON"
- Insert the limb lead and precordial lead attachments into the main cable
- Insert the cable connector into the green electrically isolated ECG connector on the monitor
- Prepare the patient's skin for electrode application by shaving excessive hair at the electrode site and cleaning the oily skin with an alcohol pad then drying
- Identify electrode sites and apply electrodes as follows (also see diagram):

Limb Leads

- **RA**- right arm
- **LA**- left arm
- **RL**- right leg
- **LL**- left leg

Precordial Leads

- **V1**- fourth intercostals space to the right of the sternum
- **V2**- fourth intercostals space to the left of the sternum
- **V3**- directly between leads V2 and V4
- **V4**- fifth left intercostals space, midclavicular line
- **V5**- level with the V4, left anterior axillary line
- **V6**- level with the V5, left midaxillary line

- Encourage the patient to remain still as possible, support the patient's arms during the acquisition process (about 10 seconds).
- Press "12 Lead" once, turn dial to adjust for patient age, push the button to acquire the 12 lead: the report will print automatically. The 12 lead data will be automatically sent to the connected Rosetta box.

- DO NOT remove the electrode after ECG acquisition—leave in place.
- If monitor detects signal *noise* (such as patient movement, poor electrode contact, or a disconnected electrode), the 12 lead acquisitions is interrupted until *noise* is removed. Take appropriate action as required to eliminate *noise*. Press “12 Lead” to reacquire the 12 lead.
- Establish contact with Medical Control via cell phone on Telemetry line. Give brief patient report and alert them that you will be transmitting the patient’s 12-lead ECG.
- Connect Rosetta Box to cell phone via cable of place mouthpiece of phone (cellular or landline) over the external speaker on the Rosetta Box.
- Press the start button on the Rosetta Box to begin transmitting to Medical Control. Inform Medical Control when light on Rosetta Box alerts you that the transmission is complete. Verify with Medical Control that they received the transmission.
- Attach printed copy of 12-lead to EMS Agency’s run sheet.

Documentation of adherence to protocol:

- Document OPQRST of patient’s chest pain
- Document successful acquisition and transmission of the 12-lead ECG
- Document any protocol treatments and/or Medical Control-directed treatments and patient’s response to interventions.

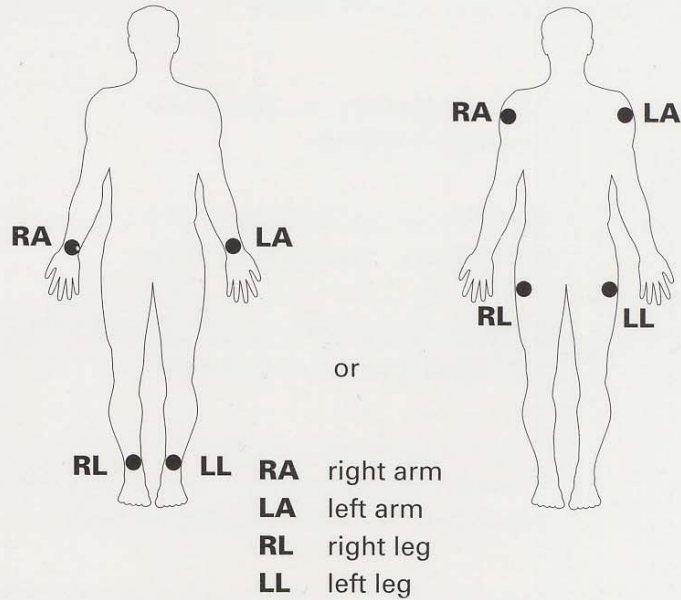
Medical Control Contact Criteria
<input type="checkbox"/> Contact Medical Control to transmit 12-lead

PRECAUTIONS AND COMMENTS

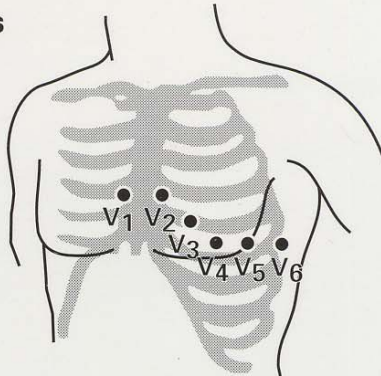
- Care must be taken to avoid an unnecessary extension of scene time.
- Patients who have prehospital 12-lead ECG’s performed should not refuse EMS services, to include scene treatment and transportation to a hospital facility.
- Avoid locating electrodes over tendons and major muscle masses.
- Avoid acquiring 12-lead ECG in a moving vehicle.
- Transmitted 12-lead to hospital is machine interpreted and needs to be overread by ED Doctor for interpretation..

12-LEAD ECG LEAD PLACEMENT

Limb Leads



Chest Leads



- V1** fourth intercostal space to the right of the sternum
- V2** fourth intercostal space to the left of the sternum
- V3** directly between leads V2 and V4
- V4** fifth intercostal space at left midclavicular line
- V5** level with lead V4 at left anterior axillary line
- V6** level with lead V5 at left midaxillary line