

EKG - 12 LEAD

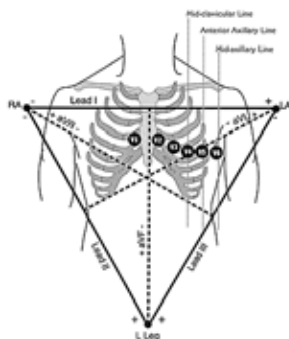
1. **INTRODUCTION:** 12-lead electrocardiograms (EKGs) are used with a variety of patients and should be used with a number of patient care policies (e.g., ALOC (**page 30**), Chest Pain/MI (**page 35**), and CHF/Pulmonary Edema (**page 41**). Treatment under these policies should proceed in conjunction with the application of the 12-lead EKG. Our goal is to incorporate the 12-lead EKG into our destination decision making process with regard to the ST-elevation MI (STEMI) patient. The transmission or reporting of the ST-elevation MI should decrease "door-to-intervention" times in our communities' hospitals

Approved CRCs are:

Cardiac Receiving Center (CRC)	ED Phone Number
Summit Medical Center	(510) 869-8797
Washington Hospital	(510) 608-1367
St. Rose Hospital	(510) 264-4251
Valley Care Medical Center	(925) 416-6518

Only ALS personnel who are employed by an agency with an approved 12-lead EKG program and who have received the required training may perform a 12-lead EKG. [see 12-LEAD EKG PROGRAM (#4210) in the Administrative Manual for training and program requirements]. 12-lead EKG is required for ALS transport providers.

2. **INDICATIONS:** Any patient with known or suspected Acute Coronary Syndrome (ACS)
- ▶ chest pain
 - ▶ discomfort or tightness radiating to the jaw, shoulders or arms
 - ▶ nausea
 - ▶ ROSC
 - ▶ diaphoresis
 - ▶ dyspnea
 - ▶ anxiety
 - ▶ syncope / dizziness
 - ▶ other "suspicious symptoms"
 - ▶ known treatment for ACS
3. **EKG CRITERIA FOR STEMI:** convex, "tombstone," or flat ST segment elevation in two or more contiguous leads. Use the machine reading "acute MI" or the equivalent, as the principal determinant for STEMI assessment
4. **PROCEDURE:**
- 4.1 Attach EKG leads to the patient (limb leads to the upper arms and ankles, and six chest leads). Perform an EKG as indicated in #3 above
- ▶ V1: right 4th intercostal space
 - ▶ V2: left 4th intercostal space
 - ▶ V3: halfway between V2 and V4
 - ▶ V4: left 5th intercostal space, mid-clavicular line
 - ▶ V5: horizontal to V4, anterior axillary line
 - ▶ V6: horizontal to V5, mid-axillary line
 - ▶ V4R: right 5th intercostal space, mid-clavicular line (use in all suspected inferior MIs)



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- 4.2 If the EKG machine is reading "Acute MI" or the equivalent, or definite new left bundle branch block, **immediately transmit the EKG and notify the receiving Cardiac Receiving Center (CRC)**. Use the machine reading as the principal determinant for STEMI assessment. Use your clinical judgment for situations outside of those listed above
- 4.3 Include the following information in your report:
 - ▶ Age and sex
 - ▶ Interpretation of the 12-lead EKG (leads, amount of ST elevation in millimeters, "confidence" in your 12-lead assessment)
 - ▶ Location of reciprocal changes (if applicable)
 - ▶ Symptoms (including presence or absence of chest pain)
 - ▶ Presence of new left bundle branch block. Presence of imposters (early repolarization left bundle branch block, left ventricular hypertrophy, pericarditis or paced rhythms).
 - ▶ Significant vital signs and physical findings
 - ▶ Time of onset
 - ▶ Estimated time of arrival to receiving CRC
- 4.4 Transport patients with ST elevation in two or more contiguous leads and symptoms of ACS to the closest CRC. Personnel should consider traffic and weather conditions, as well as the patient's choice of facility or physician
- 4.5 Attach a copy of the EKG to the hospital copy and the file copy of the PCR
- 4.6 Serial 12-lead EKGs, en route, are required in patients with strong symptomology and are encouraged in all other patients
- 4.7 Follow your agency's procedure for QI purposes