

COUNTY OF VENTURA EMERGENCY MEDICAL SERVICES		HEALTH CARE AGENCY POLICIES AND PROCEDURES
Policy Title 12 Lead ECG		Policy Number: 726
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- I. Purpose: To define the indications, procedure and documentation for obtaining 12-lead ECGs.
- II. Authority: California Health and Safety Code, Sections 1797.220 and 1798, California Code of Regulations, Title 22, Section 100175.
- III. Policy: Paramedics will obtain 12-lead ECGs in patients demonstrating symptoms of acute coronary syndrome. Treatment of these patients shall be done in accordance with this policy. Only paramedics who have received training in this policy are authorized to obtain a 12-lead ECG on patients. EMTs who are specially trained may be authorized to set up the 12 lead.
- IV. Procedure:
 - A. Indications for a 12-lead ECG: Medical history and/or presenting complaints consistent with an acute coronary syndrome. Patients will have the acute (within the previous 12 hours) onset or acute exacerbation of one or more of the following symptoms that have no other clear identifiable cause:
 1. Chest, upper back or upper abdominal discomfort.
 2. Generalized weakness.
 3. Dyspnea.
 4. Symptomatic bradycardia
 5. After successful cardioversion/defibrillation of sustained V-Tach (Policy 705.25)
 6. Paramedic Discretion
 - B. Contraindications: Do NOT perform an ECG on these patients:
 1. Critical Trauma: There must be no delay in transport.
 2. Cardiac Arrest unless return of spontaneous circulation
 - C. ECG Procedure:
 1. Attempt to obtain an ECG during initial patient evaluation. Oxygen should be administered if patient is dyspneic, shows signs of heart

failure or shock, or has SpO₂ < 94%. If the ECG can be completed without delay (less than 3 minutes after patient contact), and the patient is not in severe distress, perform ECG prior to medication administration.

2. The ECG should be done prior to transport.
3. If the ECG is of poor quality (artifact or wandering baseline), or the patient's condition worsens, repeat to a total of 3.
4. Once an acceptable quality ECG is obtained, switch the monitor to the standard 4-lead function.
5. If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, note underlying rhythm, and verify by history and physical exam that the patient does not have a pacemaker or ICD.

D. Base Hospital Communication/Transportation:

1. If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, report that to MICN immediately, along with the heart rate on ECG. If the ECG is of poor quality, or the underlying rhythm is paced, or atrial flutter, include that information in the initial report. All other information, except that listed in items 2, 4, and 5 below, is optional and can be given at the paramedic and MICN's discretion.
2. Paramedics are to ask the patient if they have a cardiologist and report the information to the base hospital.
3. If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, patients should be transported to the closest and most appropriate STEMI Receiving Center (SRC) depending on patient preference and cardiac catheterization lab availability. MICN may direct ambulance to alternative SRC if cardiac catheterization lab not available.
4. If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, and the underlying rhythm is Atrial Flutter or if the rate is above 140, the Base Hospital shall be notified at the beginning of the report. The Cath Lab will not be activated.
5. If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, and the patient has a pacemaker or the ECG is of poor quality (wandering baseline and/or artifact) report that to the MICN.
6. If a first responder paramedic obtains an ECG that does **not have** an interpretation on monitor that meets your manufacturer guidelines for a

POS STEMI ECG, and the patient is stable, patient care may be turned over to the transporting paramedic. The ECG will be turned over to the transporting paramedic.

7. Positive ECGs will be handed to the receiving medical practitioner. The receiving practitioner will initial, time and date the ECG to indicate they have received and reviewed the ECG.

E. Patient Treatment:

1. Patient Communication: If the interpretation on monitor meets your manufacturer guidelines for a POS STEMI ECG, the patient should be told that “according to the ECG you may be having a heart attack”. If the ECG interpretation is anything else, the patient should NOT be told the ECG is normal or “you are not having a heart attack”. If the patient asks what the ECG shows, tell him/her that it will be read by the emergency physician.

F. Other ECGs

1. If an ECG is obtained by a physician and the interpretation on the ECG is positive for STEMI, the patient will be treated as a positive STEMI. If the ECG obtained by a physician does not indicate a STEMI by interpretation, and the physician is stating **it is** a STEMI, perform a repeat ECG once patient is in the ambulance. If EMS ECG is positive for STEMI, transport to SRC as a STEMI alert. If EMS ECG is negative for STEMI, transport to SRC, however no STEMI alert will be activated. If physician is **not stating** it is a STEMI, and EMS ECG is not positive for STEMI, then transport to nearest facility.
3. The original ECG performed by physician shall be obtained and accompany the patient.
4. 12 Lead ECG will be scanned, or a picture will be obtained and added as an attachment to the Ventura County electronic Patient Care Report (VCePCR), in addition to being hand delivered to the receiving facility.

G. Documentation

1. VCePCR will be completed per VCEMS policy 1000. The original ECG will be turned in to the base hospital and ALS Service Provider.

H. Reporting

1. False Positive ECGs not recognized and called in as such to the Base Hospital, will be reported to VC EMS as an Unusual Occurrence in accordance with VC EMS Policy 150.

Interpretation on monitor meets your manufacturer guidelines for a
POS STEMI ECG:

