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**12-LEAD EKG PROGRAM (#4210)**

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**Introduction** - Alameda County ALS provider agencies wanting to perform the skill of 12-Lead EKG must submit a 12-lead EKG training program and a Quality Improvement plan to the EMS Agency for approval at least 30 days prior to the implementation of the program.

- 1. 12-LEAD EKG TRAINING PROGRAM CURRICULUM** - A paramedic authorized to perform 12-lead EKGs must complete a 16 hour training program.

The curriculum must include at a minimum:

- Anatomy
- Basic electrophysiology
- Introduction to vectors and axis
- Leads and lead placement
- EKG boxes, sizes, and temporal relationships
- Waves, complexes, intervals, and segments
- Rate analysis
- Rhythm interpretation
- ST segments
- ST elevation “imposters”
- Acute MI and acute coronary syndrome
- Bundle branch blocks
- Case studies
- Technical and protocol considerations

**2. QUALITY IMPROVEMENT PLAN**

- 2.1 **Data Collection** - Data must be collected on each 12-lead EKG performed. The ALS provider agency should develop a method for collecting the data that is compatible with their existing data collection process (develop a form, include data fields in an electronic data collection system, etc.)

The data collected must include at a minimum:

- A copy of the 12-lead EKG
- Date and time of the call
- C-MED number
- Crew-member names
- Unit number
- Hospital destination (if applicable)
- EKG transmitted to the base hospital (yes/no)
- ST elevation (yes/no)
- The interpretation of the EKG as read by the paramedic

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- 2.2 **Data Reporting** - The provider agency is responsible for submitting a quarterly report to the EMS Agency that includes at a minimum:
- Total number of 12-lead EKGs performed during the previous month
  - Total number of EKGs transmitted to the base hospital during the previous month
  - Total number of EKGs not transmitted to the base hospital during the previous month
  - The interpretation of the EKG as read by QI personnel
  - Total number of “false positives” (*EKGs read as ST elevation by the paramedic but was interpreted by QI personnel as not showing ST elevation*)
  - Total number of “false negatives” (*EKGs read as not having ST elevation by the paramedic but was interpreted by QI personnel as showing ST elevation*)
  - Copies of all 12-lead EKGs read as ST elevation for review by the medical director.
- 2.3 **Outcome Data** - The provider agency will assist the EMS Agency in obtaining outcome data from the receiving hospital. The outcome data must include at a minimum:
- Patient outcome (lived/died/transferred)
  - Type of intervention if applicable (fibrinolysis/angioplasty)
  - Door-to-intervention time
  - Comment/input from the hospital