



EMS Best Practices



Welcome

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Welcome to the first edition of Contra Costa County EMS Best Practices. This newsletter will highlight what you can do to support best practices and quality patient outcomes. In this news bulletin there will be opportunities to address clinical practice, training and system issues that affect our county EMS agencies daily.

Why is this important? First and foremost we want all of our EMS providers to have the skills and knowledge to ensure that quality emergency medical services are available for all people in Contra Costa County. Second, EMS wants to assist all providers in assuring that the emergency medical care you give is consistent with best practices and evidence based medicine.

How do we accomplish that? We do that with a comprehensive Quality Improvement Program that is committed to monitoring key indicators. These include clinical outcome data, response time, unusual occurrences, infrequent skills used in the field and specific treatment guideline related information. In this issue we will begin to

discuss documentation and 12- Lead ECG. Our goal is to produce this newsletter on a regular basis to give you direct feedback on how we are doing and what challenges we face as we strive for “best practice” in the field 24/7.

How can you help? Participate in your agency’s quality activities. Support your colleagues’ best practice. Share your experience and knowledge with your less experienced partners. Take the opportunity to learn something new. If there is a better way to do something let people know!

We welcome your comments and participation in this process. Email us, tell us what you need to hear about. What questions you have. How you think we can improve care throughout the county. At the end of the day it is really up to each one of us to support “EMS Best Practice.”

Did you know?

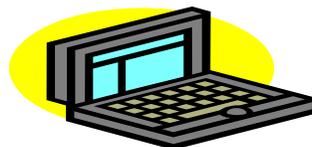
A PCR is a :

- Patient Care Record
- Legal Document
- QI Instrument
- Billing Resource
- Record of cancelled calls
- All of above

What’s GIGO!

Garbage In Garbage Out
This acronym reminds us that outcome data is only as good as what we put in. Your PCR is a critical data source. Make sure your PCR accurately reflects all interventions and patient response

Keeping the Record Straight



An accurate, concise, complete PCR is an indispensable part of EMS best practice. It is a permanent record of care and treatment of the patient. A poorly kept, incomplete or inaccurate PCR reflects badly upon otherwise excellent provider performance and patient care. The following are some general guidelines for proper documentation in the medical record. Your own agency’s policy and procedures on documentation should also be consulted.

EMS documentation has entered the electronic age and in our county many agencies are implementing new electronic systems to improve the quality of documentation. These new electronic PCRs also have a huge back-end advantage for data analysis and clinical research.

This gives all of us a tremendous opportunity to look at our practice and determine what working and what is not. Make improvements based on that data through training and feedback. It also gives us a “heads up” to system issues that can affect performance and create barriers to care. These issues can be identified, addressed, systems redesigned and interventions reassessed for real improvement. These are the processes we use to establish best practice. Are you doing your part? It all starts with documentation.

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12-Lead Program: Avoiding ECG Pitfalls

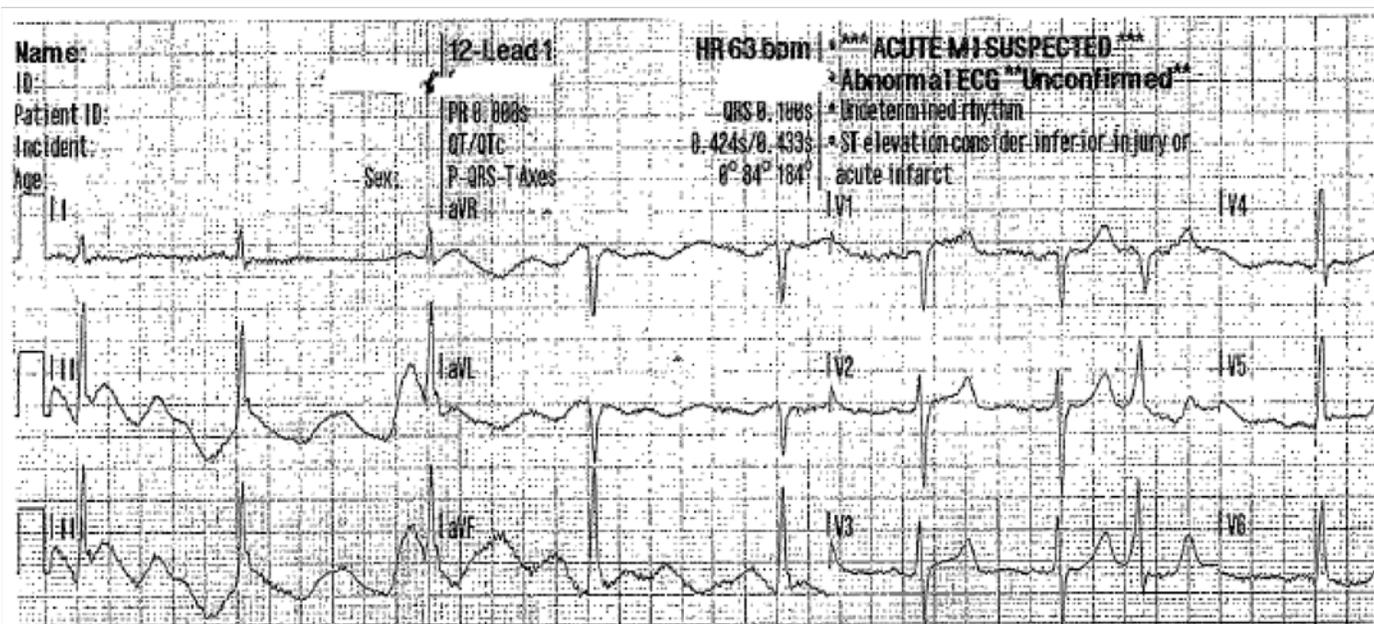
Joe Barger MD EMS Director

False readings can lead down incorrect treatment paths! Take a look at this...

A middle aged patient presents with weakness, dizziness and rectal bleeding. A 12-lead ECG was done (shown below). The computerized readout says *****Acute MI Suspected*****, with consideration of inferior infarct. However, there is significant artifact seen leads II, III, and AVF, which are the leads that indicate an inferior wall MI. A repeat electrocardiogram at the hospital showed no evidence of MI.

Artifact, most often related to motion or poor skin prep/lead contact, can lead to inaccurate readings, as in this case that led to a “false positive” reading for MI. So always look for a good baseline. You should see the P wave, T wave, and (especially with slower rates) a good baseline between the T and the next P. The baseline is absent in the inferior leads here. When the ECG is without artifact the 12 lead interpretation of *****Acute MI***** is very specific and accurate.

Patients with GI bleeding certainly can be at risk for ischemia or MI because acute anemia can reduce oxygen-carrying capacity to the heart. Supplemental oxygen is a must for all of these patients. Other treatment for suspected ischemia **might** be appropriate in some situations, but a 12-lead like this may mislead if artifact is the cause for the findings and the patient is otherwise without clear ischemic symptoms.



Preventing Artifact: key points

**The two main causes of artifact are poor skin preparation and motion.
Every EMS agency that has instituted 12-lead ECG has battled these issues!**

Critical steps in preparation and acquisition of the ECG:

- Shave body hair as needed. Rub skin with alcohol wipes to remove surface oil that can affect conduction. Mildly abrade skin with skin prep paper (like fine sand paper) or gauze.
- Movement of the patient or cables during the 12-lead process should be avoided.
- Obtain the ECG on scene or before putting the ambulance in motion. Repeat 12-lead ECG's done with the ambulance in motion should be avoided.

After the ECG is done:

- Look at every ECG you do to assure that the baseline is not wandering greatly (more than 1-2 mm) and that there aren't significant other artifacts. In some cases the ECG reading will state "ECG override: Data quality prohibits interpretation."
- If these problems are present, correct problems with leads or motion and repeat the ECG at that time.
- Still having problems? Consult your agency clinical educator for assistance. Sometimes it could be the machine or the type of leads

Please contact us with your comments or concerns. Visit our website @ www.ccems.org