



Contra Costa Emergency Medical Services

CLINICAL NEWS AND UPDATES

Volume 1 Issue 1

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Focus on Stroke for 2005

In the coming year, Contra Costa EMS will be increasing the focus on prehospital evaluation and care of stroke victims. EMS providers in our county assess a substantial number of patients for stroke symptoms, by our estimates at least 100 per month. Stroke is the third leading cause of death in the United States, and a major cause of disability. The cost of care for stroke victims in this country exceeds \$50 billion per year.

Up until recently, unfortunately, there was little that could be done for stroke victims, and prehospital emergency care focused on the ABC's and supportive care. Those are still the cornerstones of care, but new interventions available in hospitals are helping reverse the effects of some strokes. Thrombolysis using TPA (tissue plasminogen activator), a drug previously known for its clot-busting activity in heart attacks, can be used in some stroke victims. And there is some evidence that the use of ultrasound waves applied externally to the head can increase the effectiveness of TPA. As well, invasive techniques using a tiny "corkscrew" device can remove a clot causing a stroke. However, these interventions

need to be done in a timely fashion, which means that for EMS stroke patients, the emphasis needs to shift to rapid transport. Minutes can count. TPA must be given within 3 hours of the onset of the stroke. Invasive techniques, not available in most areas, may be extending the time "window of opportunity."

In late November, Dr. Ray Stephens, a local neurologist, provided an excellent talk on stroke that is now available in DVD form for free CE credits. The presentation was packed with information that I believe will be of interest to all. This DVD is available for your review at your agency or through the EMS agency.

By Joseph Barger, MD



"Time is Brain"

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Prehospital Stroke Care-The Essentials

5 major points to prehospital assessment and care of acute stroke victims:

- **Gather the history**- the time of symptom onset is critical. When was the patient last seen as "normal?" All patients with symptoms of 12 hours or less should be given urgent priority.
- **Assess the patient for stroke**-The Cincinnati Stroke Scale (CSS) will become a standard for evaluation by the end of this year.
- **Minimize scene time**
- **Address the three "Hypos"**- hypoxia, hypotension, and hypoglycemia- while airway care is paramount from the onset, treatment with IV fluids and evaluation of blood glucose should be done en route when stroke is suspected.

- **Hospital Notification**- let the receiving hospital know as soon as possible that you are bringing them an acute stroke victim.

Many patients will not qualify for acute intervention, but it is reasonable to give the patient his or her best chance by working to deliver these patients promptly to the hospital. In a recent audit of care, we found that 20% of these patients with possible stroke symptoms had scene times greater than 15 minutes. A few of these patients had very confusing presentations, and some had need for acute airway interventions, but most of the records had no obvious reason noted for the prolonged scene time. Situations vary, but most stroke patients should be transported within 15 minutes, and many within 10. In our audit, one-third of patients had scene times of 10 minutes or less.

Transient Ischemic Attacks (TIA's) are known to be dangerous predecessors of stroke, even though symptoms may have improved. These patients should be assessed and managed in a similar fashion to stroke patients. As well, over 25% of patients who have a stroke have had a previous one. These patients can also qualify for acute treatment in many instances

Cincinnati Stroke Scale

In less than two minutes, a paramedic or EMT can assess a patient for possible acute stroke using the Cincinnati Stroke Scale. Use of the CSS is a standard evaluation in many systems and will be fully implemented in Contra Costa County by the end of 2005.

CSS assesses 3 items:

- ◆ **Facial droop**
- ◆ **Arm weakness**
- ◆ **Speech abnormalities**

Facial Droop: Ask the patient to smile or grimace. A symmetrical smile or face is normal, asymmetry is abnormal.

Arm weakness: Ask the patient to close their eyes and extend both arms straight out for 10 seconds. If both arms move the same or do not move at all, the test is normal. If one arm drifts down compared to the other the test is abnormal. The most sensitive way to check for weakness is to have the patient hold their arms out with palms up. Patients with arm weakness will also tend to "pronate" which means the hand will turn from being "palms up" to sideways or "palms down."

Speech: Have the patient say the words "The sky is blue in Cincinnati." If the patient says the correct words without slurring, the test is normal. If the patient slurs words, uses incorrect words, or is unable to speak the test is abnormal.

If any one of these three findings is abnormal and is a new finding, the chances of acute stroke are 70%. If all three are new findings, the chances of acute stroke are 85%.

It is appropriate to use the CSS when the patient has new findings that include :

- ⇒ Acute or sudden weakness or numbness of one side of the body
- ⇒ Sudden confusion, trouble speaking, or understanding
- ⇒ Sudden trouble seeing out of one or both eyes
- ⇒ Sudden trouble walking, or sudden onset dizziness, loss of balance or coordination

The **KEY** issue is the **SUDDEN** or **ACUTE** onset of symptoms. CSS won't pick up all strokes and some things that aren't stroke may lead to an abnormal CSS. As a rapid assessment tool in the setting of new symptoms, however, the CSS is a very useful tool for detecting possible stroke.

EMT-B National Registry Written Exam 2005

January 20th-

Registration deadline January 14th

February 1st-

Registration deadline January 24th

April 5th-

Registration deadline March 28th

June 1st-

Registration deadline May 25th

June 7th-

Registration deadline May 31st

August 9th-

Registration deadline August 1st

October 4th-

Registration deadline September 26th

December 6th-

Registration deadline November 28th



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Great Job !

In August 2004, AMR paramedics Walter Fields and Regina Arnold responded to a private residence for a 3 year old that was unconscious after falling into a swimming pool. Per the family, the child was in the pool for less than 1 minute, and initially after being pulled from the pool, was not breathing.

When the paramedics arrived, the child had labored respirations at approx. 6 per minute. Ventilations were begun with bag-valve-mask and the patients spontaneous respirations improved to 20 per minute. The patient was cyanotic, cold and was noted to have decerebrate posturing.

The Care was transferred to Calstar RN's Paul Naas and Tim Castelli and at that time the patient was noted to have decorticate posturing.

The patient had an IO and airway established using RSI. The child was transported to John Muir Medical Center initially, and after further stabilization, the child was transferred to Children's Hospital Oakland by ground with the Calstar crew accompanying the patient.

The child was treated at CHO with IV antibiotics for pulmonary infiltrates, and after 4 days in the hospital, was discharged home without any neurological deficit.

CONGRATULATIONS to all those involved in the care of these patients. Your exemplary care has made a difference in the lives of both these patients and their families!

In December 2004, Contra Costa County Fire Captain Dick Brisbon, Engineer John Marshall, Firefighter Patrick Hathaway and AMR paramedics Anthony Hendricks and Todd Hummel responded to a private residence for a 74 year old who developed chest pain and shortness of breath followed by a syncopal episode, after working in the yard. When the paramedics arrived, the patient continued to have chest pressure and when placed on a cardiac monitor, was found to be in a ventricular tachycardia with a rate of 220. The patient had weak radial pulses and no blood pressure. A precordial thump

and CPR were initiated after the patient lost pulses. The patient was defibrillated twice, and converted to a normal sinus rhythm. Ventilations were assisted with a bag-mask-valve and the patient regained spontaneous respirations at 18 per minute. The patient regained consciousness while en route to Mt. Diablo. Upon arrival at the hospital, the patient was pain free with a blood pressure of 112/64. The monitor showed a normal sinus rhythm at 78. After a 2 day hospital stay, the patient was transferred to another facility for further cardiac evaluation.

New EMT/Paramedic Regulation Changes

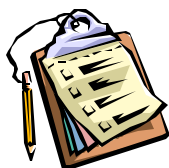
Continuing Education update for paramedics and EMT's:

- ◆ At least 50% of the required CE hours must be in a format that is instructor based, which means instructor resources are readily available to the student to answer questions, provide feedback, provide clarification, and address concerns. This provision shall NOT include precepting or magazine articles for CE. The CE provider approving authority shall determine whether a CE course, class or activity is instructor based.

Updates for EMT's:

- ◆ Written skills testing that was required every 4 years has been eliminated. EMT's must now complete 24 hours of continuing education and skills verification every two years to renew their certification.
- ◆ A single statewide certification exam will be adopted as of January 1, 2006-currently slated to be the National Registry of Emergency Medical Technicians exam. All new candidates for EMT certification, as well as those who have let their certification lapse for more than twelve months will be required to take the NREMT exam.

Policy Spotlight



Policy 9- Destination Determination

Perhaps nowhere in EMS is there potentially a more complex set of issues to consider than in determining patient destinations. EMS Policy 9, Patient Destination Determination, addresses many issues, yet it can't be used as a "cookbook" that gives a definitive answer in all cases.

One area that is particularly vexing is the issue of patients who may need special resources. Our policies, procedures, and prehospital care manual help address use of special resources such as trauma centers and burn centers. But many other specialty areas are not addressed in our policies and procedures, primarily because the complexity and variable availability of these resources makes it hard to create "rules to live by."

For example, some hospitals have invasive cardiology capabilities, while others do not. No paramedic can know at a moment's notice whether prompt cardiac catheterization will be available at any hospital, since the access to this care may be slowed by patient volume, scheduling, hours of operation, etc. We do not have special cardiology receiving centers designated in the county, and paramedics are urged to avoid introducing their bias or personal knowledge about various hospitals when it comes to destination of cardiac patients.

Some hospitals have a wider array of specialists available for care. But every basic emergency department is responsible for care of patients, no matter what their specialty needs are. In most situations, the emergent availability of a subspecialist is not an issue. If necessary, an interfacility transfer can be arranged. For example, most hand injuries or vascular injuries of extremities (aside from major trauma) are not so critical as to need immediate intervention.

In some past cases, paramedics have been swayed by the input of receiving facilities during call-in to change destination based on the non-availability of subspecialists. Patients should not be directed away from an emergency department based on the responses of hospital staff at the time of an ED notification call.

We realize that there are situations in which it is very hard not to insert personal opinion or bias into destination decisions. Paramedics are encouraged to stay within the boundaries of policies and procedures and, if needed, may contact the base hospital for advice if a difficult situation not covered in the policy is encountered.

Joseph Barger, MD

Whatever Happened to Base Contact ?

Joseph Barger, MD

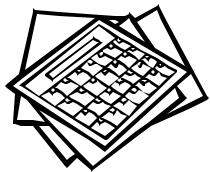
The success of expanding numbers of standing orders in our treatment guidelines over the past five years now means that base contact is rarely needed outside trauma destination decision-making. We think this is good not just in terms of patient care, but fits better into care administered by first-responder paramedics or single-paramedic ambulance crews.

But the base is still there to help answer questions or concerns, whether they are about patient destination or other policy issues. Base contact is also required in circumstances in which the paramedic wants to administer medication beyond the specified dosage in the standing orders, primarily morphine sulfate). Also there are some patients with acute pain problems not covered in our treatment

guidelines in which prehospital pain management is the right thing to do, and base contact is required in these situations. In the treatment of pediatric tachycardia, base contact is still required in order to give adenosine, lidocaine, or to perform cardioversion.

The base is also there to help in situations when patients are refusing care, and in some situations when determination of death cannot be done based on policy. And anytime a paramedic is unsure about treatment and believes the base can help, a call should be made.

If you have comments or suggestions about base contact, please don't hesitate to contact me via e-mail or voice mail, or contact Lori Altabet, base coordinator @947-4438.



Save the Date!
2nd Annual Prehospital Conference
September 21, 2005
John Muir Medical Center

Looking for more from the field.....

Here is the first edition of our EMS newsletter. Your participation, ideas, questions and contributions are encouraged. If you have an interesting case that you would like to submit for the newsletter or any other KUDOS that we can include, please contact:

*Ruth Burk, RN
Quality Improvement Specialist
Contra Costa County EMS
1340 Arnold Drive, Suite 126
Martinez, CA. 94553
E-mail rburk@hsd.co.contra-costa.ca.us or phone (925)646-9214*

**EMS
STAFF**

Name	Phone 646-4690	E-Mail
Art Lathrop EMS Director	Ext. 207	Alathrop@hsd.co.contra-costa.ca.us
Joseph Barger, MD EMS Medical Director	Ext. 206	Jbarger@hsd.co.contra-costa.ca.us
Lauren Kovaleff Program Coordinator	Ext. 208	Lkovalef@hsd.co.contra-costa.ca.us
Dan Guerra Health Services Emergency Preparedness Manager	Ext. 202	Dguerra@hsd.co.contra-costa.ca.us
Barbara Center Region 2 Disaster Medical Health Specialist	Ext. 209	Bcenter@hsd.co.contra-costa.ca.us
Pam Dodson Training Coordinator/Fire Liason	Ext. 203	Pdodson@hsd.co.contra-costa.ca.us
Bruce Kenagy Prehospital Care Coordinator	Ext. 210	Bkenagy@hsd.co.contra-costa.ca.us
Judy Smith Trauma Coordinator	Ext. 211	Jsmith@hsd.co.contra-costa.ca.us
Ruth Burk Quality Improvement	Ext. 212	Rburk@hsd.co.contra-costa.ca.us

Contra Costa County Emergency Medical Services
1340 Arnold Drive Suite 126 Martinez, Ca. 94553
Phone: 925-646-4690 Fax: 925-646-4379

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www.cccems.org**