



CENTRAL IOWA EMS DIRECTORS Synergy

April 2009

BRIDGING THE
GAP BETWEEN
HOSPITALS
AND EMS

INSIDE THIS ISSUE

Medication Update
Fentanyl

State of the art EMS
The Vidacare
EZ-IO System

Protocol Spotlight
Acute Myocardial
Infarction

Crew Corner
DNR patient dies
while in route to
the hospital —
what do you do?

EMS TEAMS Cards

**Meetings/
Events**

Welcome to the first edition of Synergy, brought to you by the Central Iowa EMS Directors Association (CIEMSD). We are a growing group with focus on system development, planning, communication, and coordination.

Synergy is a term used to describe a situation where different entities cooperate advantageously for a final outcome. It may also be defined as a partnership where the whole is greater than the sum of its parts. We think this corresponds perfectly with the mission of the Central Iowa EMS Directors.

The goal of Synergy is to provide education and a communication means for both EMS agencies and hospitals. In today's changing world, it's critical these two groups stay in tune with each other. As we continue to grow, change, and adapt, Synergy will provide the avenue of communication we need. It will allow EMS to share new protocols, equipment, and capabilities with hospital staff and allow hospitals to keep EMS updated on changes within their systems.

The Central Iowa EMS Directors Association meets every other month to share ideas and make decisions on issues affecting our agencies and communities. There are 9 counties included in the association, which include: Boone, Dallas,

Jasper, Madison, Marion, Marshall, Polk, Story and Warren counties. It is imperative each agency and hospital has a voice at regular meetings.

The CIEMSD Association also has several committees that work on special projects and focus on specific opportunities. The Operations Committee focuses on operational issues such as MCI plans, TEAMS, and communications. The Training Committee focuses on strategic training programs, works with EMS Programs, refreshers and other training related opportunities. The Medical Directors Committee brings service medical directors together to review and standardize protocols.

If you are interested in more information about attending CIEMSD meetings or joining one of the committee's, please contact us.

We hope Synergy will allow the ED's and their staff to get a better glimpse into the world of EMS and vice versa, EMS gaining a better ongoing perspective of what is happening in our hospitals.

You can expect to see Synergy quarterly. If there is something that you would like to see included we welcome any suggestions and we appreciate all you do.

Sincerely,

Dan Keough
CIEMSD President

Dan Gubbins
CIEMSD Vice President

As we continue to grow, change, and adapt, Synergy will provide the avenue of communication we need.



Visit us on the web at www.CIESMD.org

Did You Know?

MEDICATION UPDATE

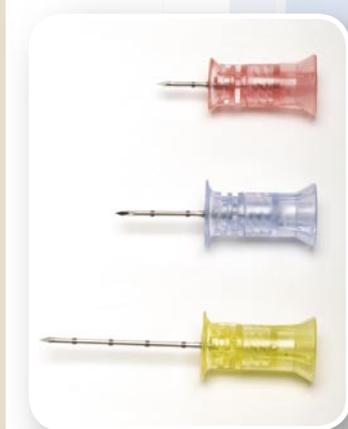
Fentanyl

Fentanyl is currently the analgesic of choice for moderate to severe pain in the prehospital patient. Traditionally Morphine has been our drug of choice; however, science and experience are teaching us Fentanyl is a better option. Fentanyl is safe aside from the dreaded “rigid chest syndrome,” which I’ve yet to meet anyone who has personally seen. Fentanyl is titrateable. If pain level is not improved within 5 minutes of intravenous injection, repeated doses may be given. Fentanyl is reversible. Naloxone may be utilized if adverse effects such as respiratory depression occur. Unlike Morphine, Fentanyl does not cause histamine release and subsequent vasodilation. Thus, there is no concern for dropping a patient’s blood pressure. Fentanyl has a relatively short half-life. Duration of action is 30 to 60 minutes versus 2 to 3 hours for Morphine. This allows the receiving physician to see the discomfort the patient was in upon EMS arrival. Fentanyl can be given safely intramuscularly or in an intranasal atomizer, potentially eliminating the need for an IV.

Sources available upon request.

James Poole, DO

*Mercy Emergency Department –
Emergency Medicine Physician
Mercy Emergency Department –
Associate Medical Director
Mercy College of Health Sciences –
EMS Division – CoMedical Director
Mercy One – Assistant Medical Director
Clive, Pleasantville & Windsor Heights EMS
– Medical Director*



State of the art EMS

The Vidacare EZ-IO System

In emergency medical situations — when IV access is often difficult or time consuming — EZ-IO provides safe, simple, and rapid vascular access through the intraosseous space.

Since time is especially critical in emergency settings, EZ-IO can be used to establish stable and secure vascular access in less than 10 seconds — for both alert and unconscious children and adults. Once established, the EZ-IO line remains stable during transport and can be used to deliver drugs, fluids, or blood products required in the patient’s treatment.

IO access has now become the preferred method of establishing vascular access for patients experiencing cardiac arrest, major trauma, airway compromise, along with patients who have poor peripheral vasculature such as diabetics, dialysis patients, burn victims, IV drug users, obese patients, dehydrated patients, and others. In fact, many EMS services and Hospitals are now using EZ-IO as their first line solution for vascular access in both adult and pediatric cardiac arrest victims, enabling administration of lifesaving drugs much earlier than previously possible with traditional peripheral IV placement.

Note each are 15ga:

- The **Pink** PD needle is 15mm in length for patient 3-39kg
- The **Blue** AD needle is 25mm in length for patients >40kg
- The **Yellow** LD needle is 45mm in length for patients with excessive tissue.

The sites available are:

- The proximal tibia on the flat medial aspect next to the tibial tuberosity.
- The distal tibia on the medial aspect 2 finger breadths proximal to the medial malleolus (inner ankle bone) in the center of the bone.
- The proximal humerus on the greater tubercle along the superior-anterior aspect of the shoulder.

** Any fluid instilled into the intraosseous space is transferred very rapidly into the central vasculature (approximately 1.4 seconds) and reaches the heart (right atrium) in approximately 4-6 seconds (dependant on the insertion site).*

** Any medication that can safely be given peripherally can be given via the intraosseous route.*

Protocol Spotlight

Acute Coronary Syndromes

Basic Treatment Guidelines:

Follow initial protocols for all patients.

Advanced Treatment Guidelines:

1. Establish IV access, infuse as patient condition indicates.
2. Administer ASPIRIN 324mg orally if patient has not taken one prior to arrival of EMS.
3. Perform 12 lead ECG and continue to monitor ECG and treat dysrhythmias following appropriate protocol.
 - If inferior ST elevation perform V_{4,5,6} R
 - If consistent with RVTMI treat cautiously with NITROGLYCERIN SL; preferably with NITROGLYCERIN infusion 5 mcg/min titrate to effect increasing dose by 5 mcg/min and maintain blood pressure > 90 mm/Hg systolic.
4. Administer NITROGLYCERIN 0.4mg SL (tab or spray) if blood pressure is >90mm/Hg systolic. Initial dose of NITROGLYCERIN may be given synchronous with IV initiation.
5. Without signs of ST abnormalities, repeat NITROGLYCERIN SL every 3-5 minute for a total of 3 doses, as long as blood pressure remains > 90mm/Hg systolic. After 3 doses of NITROGLYCERIN SL consider Nitroglycerin infusion starting at 10 mcg/minute, titrate to effect increasing dose by 5 mcg/min increments and maintain blood pressure > 90 mm/Hg systolic.
6. Initiate NITROGLYCERIN infusion immediately if patient presents with ST abnormalities. Starting at 10mcg/min, titrate to effect increasing dose by 5mcg/min increments and maintain blood pressure > 90 mm/Hg systolic.
7. Following initial dose of NITROGLYCERIN SL and/or initiation of NITROGLYCERIN drip, administer FENTANYL CITRATE 25-50 mcg IV initial dose with following doses of 25-50 mcg every 5 minutes for pain control and maintaining blood pressure > 90 mm/Hg systolic. or 200mcg total of FENTANYL CITRATE has been administered.
8. In patients presenting with ST abnormalities, administer of METOPROLOL 5 mg IV over 2 minutes provided heart rate >60 and blood pressure > 100 mm/Hg systolic. Repeat every 5 minutes to max dose of 15mg.

Pre-hospital Level one cardiac alert should be called when:

- ST segment elevation is seen in two or more anatomically contiguous leads and onset of symptoms less than 12 hours.
- Left Bundle Branch Blocks = QRS > 120ms with the presence of anginal equivalents (consult with ED physician to initiate review of previous ECGs)

Contact receiving facility medical control and request an ED physician for a Cardiac Alert. Give the physician a report with patient findings who will activate the cardiac alert process.

Special Considerations:

Patients with any of the following chief complaints should be treated as suspected ACS unless other wise ordered.

- Chest pain or pressure in any patient > 25 years of age.
- Syncopal episode in any patient > 25 years of age.
- Unexplained respiratory distress.
- Atypical chest pain (i.e. shoulder, arm or jaw pain) in absence of chest pain, especially in patients having past cardiac history, irregular pulse, diabetes and in the elderly.
- In young adults consider history of cocaine and methamphetamine use.
- Other anginal equivalents.



CREW CORNER

You're working your normal 1800-0600 shift and are getting ready to try for some sleep. Minutes after you fall asleep the tones sound for a medical assignment. As you go en route the dispatcher informs your unit that you're responding to an 85 year old male patient experiencing difficulty breathing. Upon your arrival you find your male patient sitting in bed watching TV with some notable shortness of breath. During your assessment you discover the patient has end stage lung cancer and also has a DNR order. Your patient is conscious, alert and able to talk in short sentences. The patient's wife asks for him to be transported to the hospital for evaluation. During transport you follow your protocols for difficulty breathing, however the patient's breathing becomes progressively worse. You are about still about 10 minutes out from the hospital when your patient goes into full respiratory arrest. The patient's DNR clearly states no intubation or assisted ventilations, so you provide supportive care. About 6 minutes from the hospital your patient dies.

What do you do?

- A. Stop on the side of the road and have dispatch request the Medical Examiner to meet you.
- B. Turn around and bring the patient back home and have dispatch notify the Medical Examiner.
- C. Call dispatch and request the Medical Examiner to meet you at the hospital. Communicate the situation to the hospital and continue transport.
- D. Call the family and ask which funeral home they would like you to bring the patient to.

Answer: C

Call your dispatch center so the Medical Examiner can be notified to meet you at the hospital. Communicate your situation to the receiving hospital so they can prepare to handle the patient and family. The Des

Moines metro hospitals have agreed this is the best situation for the EMS crew, the patient, and the patient's family. They have also agreed the patient's family will not be charged for an ED visit.



Meetings/Events

EMS Week

May 17th – 23rd

CIEMSD Regular Meeting

Monday, May 18th, 2009

Location:

Polk City Fire Department –
309 West Van Dorn

Dinner: 1800

Meeting Time: 1830-2030

CIEMSD Regular Meeting

Monday, July 27th, 2009

Location:

Clive Fire Department
8505 Harbach Blvd.

Dinner: 1800

Meeting Time: 1830-2030

CIEMSDA

Central Iowa EMS Directors Association

President

Dan Keough

dkeough@mercydesmoines.org

Vice President

Operations Committee Chair

Dan Gubbins

dan.gubbins@polkcityfd.com

Secretary/Treasurer

Deb Wilkinson

deb.wilkinson@polkcityfd.com

Training Committee Chair

Frank Prowant

FProwant@ankenyiowa.gov

Medical Directors Committee Chair

Dan Keough

dkeough@mercydesmoines.org

EMS TEAMS CARDS

By Dan Gubbins

Vice President – Central Iowa EMS Directors

In January of this year a new program launched for Ambulance Strike Teams in Polk County. Previously a standardized strike team list was used when an agency requested large quantities of ambulances. The Operations Committee of the Central Iowa EMS Directors worked on the new procedure for over a



year. The committee reviewed many other metropolitan systems around the United States before deciding the method that would fit Polk County the best.

The new system utilizes the already well know T.E.A.M.S. (Tiered Emergency Asset Management

System) method of resource management. Each jurisdiction now utilizes an EMS TEAMS card to request resources. This method helps to eliminate duplication of services by only using the services available once, including initial assignments. The biggest advantage to the new system is it allows for the resources closest to the incident to be dispatched first, without depleting all the resources in one geographic region.

First, agencies were assigned a score based on their level of service, staffing, and distance to each jurisdiction. Next, agencies were then ranked based on their score and finally each department had the ability to modify their card. The assignment and second alarm levels were selected based off of each department's standard operating guidelines. Alarm levels three through eight on the EMS TEAMS card are the strike teams. Each alarm levels three through eight (strike team) consists of five ambulances.

In the event of a major incident in your jurisdiction, all you need to do is request the appropriate alarm level based on the number of ambulances you need. All departments within Polk County have an EMS TEAMS card on file with the appropriate dispatch center.

Visit us on the web at www.CIESMD.org