

Highlights

- Local Pharmaceutical Stockpile Arrives
- JPA Operations Committee Reactivates

Featured Links

- ◆ San Mateo County EMS Education Update
- ◆ CA Emergency Medical Services Authority
- ◆ Disaster Medical Assistance Team CA-6

*The Newsletter of
San Mateo County
EMS System
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PRIORITY ONE

Local Pharmaceutical Stockpile Arrives

by Barbara Pletz

The federal government has funded the acquisition of local pharmaceutical stockpiles by selected cities throughout the nation. This program is called the Metropolitan Medical Response System (MMRS). The intent is to provide these cities with the critical medications that would be needed in the first 48 hours of a biological or chemical attack. It is anticipated that the federal pharmaceutical stockpile would be available after this initial 48 hours.

Unfortunately, San Mateo County does not qualify for the MMRS program because, although it has a dense population of over 700,000, it does not have a city of sufficiently size. The MMRS program recognizes only cities, not counties.

San Mateo County and its local hospitals recognized the importance of having a local pharmaceutical stockpile. Together they have purchased, at their cost, a local stockpile. The stockpile contains critical supplies of antibiotics, antidotes, and other necessary medications. The San Mateo County Hospital Consortium led the project.

Procedures for deploying the stockpile are in development. The procedure for deploying nerve agent antidotes to the site of a chemical attack are completed. AMR field supervisors and fire service EMS coordinators have been trained in the procedure. It is critical that as soon as the "Incident Commander" determines that the release of a nerve agent has occurred that Public Safety Communications (PSC) is alert. PSC will make immediate notifications that will result in deployment of the stockpile.

We are grateful to our community hospitals for their generosity which has made the acquisition of the stockpile a reality. We also wish to thank the hospitals' lead pharmacists and their materials managers for their excellent contributions to the project.



California Bay Area Disaster Medical Assistance Team DMAT CA-6

When a large disaster strikes, a local community's medical resources can easily be overwhelmed by increased patient load or degraded infrastructure. At times like these, the local government requests outside medical resources. A Disaster Medical Assistance Team (DMAT) is one such resource, and the San Francisco Bay area is home to one of these teams – DMAT CA-6.

As a primary-response DMAT, CA-6 is staffed and equipped to transport, set up and operate a 250-patient-per-day field hospital in an austere, hazardous, post-disaster or pre-staged environment, without using or impacting local resources. They stock, maintain, and transport their own 3-day supply for shelter, food, water, heat, electricity, communications, and medical supplies, and are capable of departing home base within 8-12 hours of notification and becoming operational within hours of arrival.

This is the "extreme" end of the spectrum of services that a DMAT can provide. It can also provide personnel to supplement hospital or pre-hospital staff, can operate a medical clinic or provide medical care in shelters or at patient evacuation or reception site, can provide prophylaxis and post-exposure treatment and public health monitoring, and a variety of other services.

Team responses

CA-6 is normally prepared to respond within 12 hours of notification. They are on-call for the federal government (U.S. Public Health Service) 3 months of the year, during which time they prepare to respond within 8 hours of notification.

They also provide individual personnel to smaller-impact disaster response requests, and occasionally respond as a standby or supplemental team to pre-planned public events.

CA-6 has responded to the Kosovo Refugee Crisis (Fort Dix, NJ, 1999), World Trade Organization (Seattle, WA, 1999), Democratic National Convention (Los Angeles, CA, 2000), Presidential Inauguration (Washington, D.C., 2001), Tropical Storm Allison (Houston, TX, 2001), World Trade Center (New York, NY, 2001), Morgan Postal Distribution Center Anthrax Screening (New York, NY, 2001), and the 2002 Winter Olympics (Salt Lake City, UT, 2002). They are also under contract with the California Department of Forestry to respond to wildfires and provide base camp medical care to firefighters.

The team is composed of physicians, physician assistants, nurse practitioners, nurses, paramedics, medical technicians, specialists like dentists, ophthalmologists, respiratory therapists, and psychiatrists. They also have non-medical personnel including administrators, clerks, logisticians, clergy and financial personnel.

(Cont'd page 2)

California Bay Area DMAT CA-6 (Cont'd from page 1)

All team members volunteer their time for training and meetings, and are paid only for certain types of missions. They do their work for the passion they feel and the satisfaction of accomplishing a mission under extremely adverse conditions



World Trade Center mission
CA-6 recently spent two weeks at the World Trade Center ground zero, providing medical care to rescue and recovery workers. They were one of the on-call teams on

September 11th, but were unable to deploy due to the FAA grounding of the civilian air fleet and the military moving to a wartime footing. So they remained on call for other potential incidents, then deployed to New York in October.

They worked the swing shift, 4 p.m. to 12 a.m., in tents set up at ground zero. Workers there were so intensely focused and determined to work that they were unwilling to take time off to seek much needed medical care. If the DMAT services were not readily available at ground zero, many of these workers would have had more serious injuries and illnesses.

DMATs treated mainly respiratory problems, exhaustion, headaches, blisters, foreign bodies in eyes, and minor lacerations. But we also saw cardiac problems, rashes, fractures, sprains and strains, burns, food poisoning, frostbite, hypothermia, toothaches and severe psychological conditions. In addition to work-related injuries and illnesses, they provided basic clinical care for workers with chronic conditions such as diabetes and asthma.

It was an emotionally trying mission, and it was not unusual for team members to flip from emotion to emotion several times an hour – the terrifying sound of debris falling 30 stories and crashing to the ground nearby; the sickening smell of decomposition and sight of unrecognizable body parts being scooped into trash bags; firefighters and police officers stopping work to recover the body of one of their own; encountering a poignant note, “Daddy, I miss you. Please come home.” attached to a dirty and tattered teddy bear sitting on a pile of rubble; the hatred and animosity expressed towards Osama bin Laden and the terrorists; a young woman falling to the ground, crying out with grief for her missing husband, scooping ground zero dirt onto herself while her young child screams in confusion and terror beside her.



There were so many FDNY funerals and memorials that there weren't enough people to go around; coordinators asked people to attend specific services to ensure sufficient attendance at each.

In spite of the emotional intensity, the work was immensely satisfying, as the team built emotional bonds and working relationships with the other workers there. They were some of the lucky few who actually had the opportunity to give some “hands on” help. They unanimously say that they would return without hesitation if called again. (Cont'd page 4)

Medical Director's Column
Karl Sporer, MD

Trauma Resuscitation

Handling trauma resuscitations are one of the most emotionally wrenching and difficult part of our jobs. All of us who work as emergency responders are active people who like the idea of doing something for our patients. Even though it runs counter to our character, inaction can be the appropriate action for some patients.

First responders are always concerned that they did not give their patient every possible chance. It concerns them that a possible needle decompression or transport to the hospital with an emergent thoracotomy would have saved this one patient. It is important to realize that treatment of a large number of these patients can be confidently declared to be medically futile. A paramedic who understands this will make the right decision with more confidence.

Any attempt at resuscitation has a small but very real risk for the patient and the health care providers. These risks include problems of infectious diseases for the medic, the potential of an accident when using lights and sirens, the family's expense of the hospital care, crime scene disruption, and possibly falsely elevating the hopes of the family.

Post traumatic circulatory arrest and cardiac arrest are not the same. Cardiac arrest usually means cardiac standstill. Several factors such as hypovolemia, tension pneumothorax, or cardiac tamponade can make it difficult to palpate a pulse in the setting of trauma. When any of these conditions exist, the patients may not have detectable pulses despite the presence of cardiac activity.

In order to determine medical futility in traumatic resuscitation, we must differentiate between blunt and penetrating trauma. Multiple studies have demonstrated virtually no chance for survival for patients sustaining a blunt traumatic circulatory arrest with no pulses or respiration. We add some degree of safety in our clinical protocols by adding the necessity of asystole in two leads. Patients with some electrical cardiac activity may rarely benefit from needle decompressions. But any blunt post traumatic circulatory arrest with asystole has no chance of survival and resuscitation attempts should be stopped.

Survival for patients found pulseless and apneic after penetrating trauma is rare but does occur. A small group of patients that experience a stab wound or a gunshot wound may have a pericardial tamponade that will improve with an emergency thoracotomy. The trauma center criteria for an ED thoracotomy includes penetrating trauma, circulatory arrest, and some signs of life at the scene or in the ambulance. Signs of life have been variably defined but usually include spontaneous breathing, movement, etc. Penetrating trauma patients with any signs of life and circulatory arrest should have needle decompression considered and rapid transport to a trauma center.

If there is still some concern that you may be missing a salvageable patient, evaluate the cardiac rhythm. Any penetrating trauma with circulatory arrest, no signs of life, and asystole can be deemed medically futile and resuscitation attempts stopped.

Sometimes more is less. The situation of medical futility in trauma patients is one of these. We need to make reasonable knowledgeable decisions for our patients and then shift our attention to providing grief support to the family and survivors.

(Cont'd page 5)

DISASTER UPDATE

by Matt Lucett

In my last disaster update (June 2001 issue) I gave an overview of disaster operations from the operational (local) level to the regional level. What we've seen in light of the events of September 11th and the subsequent Anthrax incidents on the east coast however is a much broader response from agencies at the state and federal levels. In light of this, I would like to focus on the roles/responsibilities of the state and federal agencies that may need to coordinate our efforts with from a medical/health perspective in time of disaster.

First, as a quick review disaster planning and operations in California are based on the concepts of local operational control during disasters and mutual aid to provide the additional resources necessary to augment disaster response organizations in the disaster area. From the local level information and/or mutual aid requests are forwarded to the Regional Disaster Medical and Health Coordinator (RDMHC) in Contra Costa County. It is the region's responsibility to support and coordinate those requests as well as serve as an information source to the state medical and health response system. Below is a listing and description of some of the agencies:

EMERGENCY MEDICAL SERVICE AUTHORITY (EMSA)

The EMS Authority is the lead agency responsible for coordinating California's medical response to disasters and providing medical resources to local governments in support of their disaster response. This may include the identification, acquisition and deployment of medical supplies and personnel from unaffected regions of the state to meet the needs of disaster victims. Response activities may also include arranging for evacuation of injured victims to hospitals in areas/regions not impacted by a disaster.

DEPARTMENT OF HEALTH SERVICES (DHS)

The Department of Health Services is charged with coordinating statewide disaster public health assistance in support of local operations. The Department has primary responsibility for public and environmental health operations and has a major supporting responsibility to the Emergency Medical Services Authority. As a result of this relationship, EMSA and DHS have an agreement in place detailing the role between the two agencies in responding to a catastrophic event in the state.

The primary responsibility of DHS under this agreement is the development, implementation and administration of the Joint Emergency Operations Center (JEOC). During a disaster, the JEOC acquires medical and public health supplies, equipment, and personnel as needed to support the disaster medical response under the statewide medical/health mutual aid system. The JEOC is also tasked with setting state medical and health policy and procedures and is the central point for coordination of the Department's emergency response and recovery activities, information, and resources.

CALIFORNIA GOVERNOR'S OFFICE OF EMERGENCY SERVICES (OES)

The Governor's Office of Emergency Services coordinates overall state agency response to major disasters. During emergencies, OES activates the State Operations Center (SOC) in Sacramento and the Regional Emergency Operations Center (REOC) in impacted areas to receive and process local requests for assistance. These REOC's are similar to the medical RDMHC's that were identified earlier. Additionally, state medical and health personnel run the Medical and Health Branch in each activated OES REOC. The branch has the responsibility to coordinate the medical and health response with other state agencies such as the California National Guard, and insure that the response supports the overall state response priorities as established by OES.

U.S. DEPT. OF HEALTH & HUMAN SERVICES, OFFICE OF EMERGENCY PREPAREDNESS (OEP)

The Office of Emergency Preparedness (OEP) is within the U.S. Department of Health and Human Services and has the departmental responsibility for managing and coordinating federal health, medical, and health related social services and recovery to major emergencies and federally declared disasters including natural disasters, technological disasters major transportation accidents and terrorism. The office works in partnership with the Federal Emergency Management Agency (FEMA) and directs and manages the National Disaster Medical System (NDMS).

NATIONAL DISASTER MEDICAL SYSTEM (NDMS)

The National Disaster Medical System is a federally coordinated system that augments the nation's emergency medical response capability. Their overall purpose is to establish a single integrated national medical response capability for assisting state and local authorities in dealing with the medical and health effects of major peacetime disaster. Additionally, NDMS, through the U.S. Public Health Services (PHS), fosters the development of Disaster Medical Assistance Teams (DMAT). For more information on DMAT's please see Dave Lipin's article in this issue.

California Bay Area DMAT CA-6 (Cont'd from page 2)**Anthrax mission**

The New York post office anthrax incident occurred in the midst of the team's WTC mission. They were unexpectedly tasked with a second mission – quickly set up a prophylaxis center for processing U.S. Postal Service workers. Team members were pulled from all DMATs working at WTC ground zero, and instructed to set up a prophylaxis center inside an empty warehouse.

They started about 5 p.m., and began processing patients around 10 p.m. They were relieved at 8 a.m. the next morning by newly-arriving DMAT staff activated on short notice and brought to the center. The center processed over 7,000 postal workers in under 48 hours: triaging and screening each person, providing information in group briefings and one-on-one sessions, and prescribing a 10-day regimen of antibiotics (just long enough for the results of further testing to determine whether a full course of antibiotics was required).

This mission was the dawn of a new era for DMATs. All prior DMAT missions were to provide standby, clinical or disaster medical care to communities. This mission brought DMATs to the front line of bioterrorism, and DMATs have continued in this role in Washington, D.C., and in New York in subsequent missions.

Team support and activation

Contra Costa County is the signatory sponsor for DMAT CA-6, but the counties of Alameda, Marin, San Francisco and San Mateo helped start and continue to support our team in many ways.

Officially, the team can be activated by three levels of government: federal, state, and county. At the federal level, CA-6 falls under the Office of Emergency Preparedness (OEP) National Disaster Medical System (NDMS) / U.S. Public Health Service (USPHS) / Department of Health and Human Services (DHHS), activated by a request to the Federal Emergency Management Agency (FEMA) for disasters and directly to OEP for a standby mission. At the state level, they fall under the California Emergency Medical Services Authority (EMSA), activated by a request to the Office of Emergency Services (OES) for disasters and directly to EMSA for a standby mission. At the county level, any Operational Area can request activation of the team. The team can also self-activate. The activating entity pays or arranges for mission expenses, which are frequently waived by the team in part or in whole.

**For more information**

For more information, questions, or an application, see the team's website at www.dmatca6.org. Prospective members are also welcome to attend any regularly scheduled team meeting. The team also sends out regular newsletters and announcements of upcoming events. Send them your e-mail address (or regular mail address) if you would like to receive these mailings.

Please contact Matt Lucett at (650) 573-2737 if you are interested in an application to join the team.

**AMR'S
New Team Member**

by John Odle

It gives us great pleasure to introduce our newest addition to the AMR-San Mateo team, Clinical and Educational Services Coordinator, Kevin Miller EMT-P. Actually, Kevin is not new to San Mateo as he started his stellar career right here as an Explorer for BayStar in 1992 and eventually became the post's President. Kevin completed his EMT training and was promoted to an EMT position with BayStar/AMR in June, 1994. After 4 years of setting a fine example as a field-training officer for newly hired employees, Kevin completed his paramedic training and was again Promoted; this time, to a paramedic position in September, 1998. Kevin transferred to our Santa Clara division where he spent a little over 3 years honing his many talents, while taking on additional duties as an Alternate ALS Field Supervisor, field training officer and fixed wing flight paramedic. The little time Kevin had leftover was spent coordinating the CISM team for several counties.

We are very excited to have Kevin as a part of our team and look forward to the many contributions he will make to the CES department. Please join us in congratulating and welcoming Kevin to the team!

Summer Interns

by Barbara Pletz

Two students spent the summer in internships with the EMS Agency. It was a pleasure to have them working with us.

Roland Tam will begin his second year in medical school at Albert Einstein College of Medicine in New York City. He spent his summer with Dr. Sporer. His primary objective was assisting Dr. Sporer with research projects. Roland also has nine years experience as a computer programmer. He assisted the EMS staff with developing queries and reports from our new data system.

Tracy Hsu is a third year undergraduate student from Stanford University. Her primary objective was to learn more about the health care system. She is interested in pursuing a career in a health related field. She spent time "riding along" with field care units, "sitting along" at Public Safety Communications, and attending meetings with EMS staff members. Her primary project during the summer internship was to develop a customer satisfaction survey instrument for our EMS system clients and their families. We enjoyed working with Roland and Tracy and we wish them the best of luck in their future scholastic and professional endeavors.

JPA REACTIVATES OPERATIONS COMMITTEE

Larry Olson, JPA Administrator

Those of you who were involved in the formation of the JPA, back in the late 1990's, will remember that there was an Operations Committee. None other than Armando Muela was Chairman, Bob Barry was Vice Chair, and Barry Dorland was Secretary. Other members of the Committee included Management Representatives Andy Stark, Dan Belville, Greg Auger, and Jim Asche. Technical Representatives were Mike Ahern, Mark Ladas, Geoff Balton, and Randy Shurson. Labor was represented by Pat Sweeney, Nick Weber, Mike Gaffney, and Ron Michaelson.

This group had their first meeting on January 16, 1998, and worked on various parts of the JPA Contract. They were actively involved in the subject areas of **training, operations, support, and technology**. After the JPA began operations on January 1, 1999, the members of this Operations Committee found themselves involved with numerous other committees and working groups. The original Operations Committee ceased to exist as a separate organization, but all members continued working on various other committees.

We are now three and one-half years into our original six-year contract and the majority of the work has been completed in establishing the JPA. Most of these early committees have finished their assignments and are no longer meeting. At this point our Fire Chiefs, along with others, believe it is timely to reactivate the Operations Committee in order to coordinate and resolve on-going operational issues faced by the JPA.

The fact is that our original Agreement Establishing the San Mateo County Pre-Hospital Emergency Services Providers Group specifies and defines the **Operations Committee**. Section VIII.B.1. of the Agreement states: *The Operations Committee shall be made up of fifteen (15) people from a cross-section of fire operations (supervisory, management, operational; EMT-I, EMT-II, EMT-P, trainers and preceptors) as well as a city manager. Of the fifteen members of the Operations Committee, there shall be (a) at least one member from each of the zones created in the San Mateo County Request for Proposals for Ambulance Service or as created by the Governing Board of the Group and (b) at least five members of local labor organizations representing firefighters/paramedics. The City Manager shall be selected by the San Mateo County City Managers' Association. The five members of local labor organizations shall be selected by the San Mateo County Fire Chiefs' Association with the agreement of the local labor organizations. The remaining members of the Operations Committee shall be selected by the San Mateo County Fire Chiefs' Association. The Operations Committee shall select one of its members to serve on the Executive Committee created by Section VIII.A. of this Agreement.*

MCI Policy Update

By Matt Lucett

The MCI Policy Group continues to work on a new and improved MCI Policy for field personnel. There are a number of changes that will be made to the policy including:

- An MCI response declaration will no longer be based solely on number of victims but will instead be based on the required resources needed to an incident through the proper implementation of the Incident Command System. This is similar to the fire service Greater Alarm Plan (GAP) currently in place.
- The policy includes position checklists for responders to follow during an incident.
- New log sheets including a Treatment Sector Log, Unit Staging Log, Hospital Polling Log and Hospital Transport Log.
- Glossary of disaster-related terms.

Additionally, the group is continuing to meet to develop a list of recommended equipment to be made available to field responders. This equipment includes color-coded tarps, vests and FOG manuals. If you would like a copy of the draft plan please feel free to contact me at (650) 573-2737 or at mlucett@co.sanmateo.ca.us.

Medical Director's Column

(Cont'd from page 2)

Eckstein M. Termination of resuscitative efforts: medical futility for the trauma patient. Current Opinion in Critical Care 2001;7:450-454.

TRAUMA EVALUATION AND MANAGEMENT

- Traumatic Cardiac Arrest:
 - This requires all of the following
 - Physical signs of trauma and/or blood loss
 - GCS= 3
 - No respiratory effort
 - No palpable pulses
 - Asystole in two leads
 - In the setting of traumatic arrest and pulseless electrical activity (PEA) consider pleural decompression for suspected tension pneumothorax
 - If the patient meets all of the above criteria, pronounce in the field, otherwise initiate rapid transport
 - Notify medical examiner
 - Provide grief support and referrals for on-site survivors



Educational Opportunities for San Mateo County

All San Mateo County EMT's, Paramedics, Nurses and ED Staff Welcome!!

September 24th

EMS Journal Club

6 pm -8 pm 2 Hours of CEU

October 24th

Bay Area Fall Symposium

8:00 am – 5:00 pm, 8 hours of CEU

Stern Grove Golden Gate Park

Fee: \$40.00

See San Mateo County Web Site for Further Information

November- Field Care Audit

Central San Mateo County

Date and Location to be Announced

3 Hours CEU (morning and afternoon sessions)

December 11th

EMS Journal Club

San Mateo County Location

6:00 pm – 8:00 pm, 2 Hours of CEU