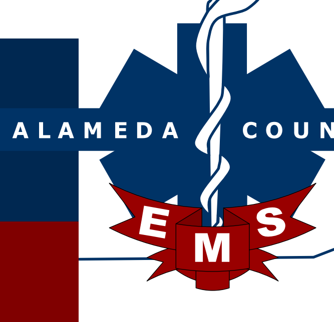

ALAMEDA COUNTY EMERGENCY MEDICAL SERVICES AGENCY

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EMS NEWS

October - December, 2009

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H1N1 Flu Widespread in all 50 States

What is H1N1 Flu?

H1N1 flu is a new influenza virus causing illness in people. It has two genes from flu viruses that circulate in pigs in Europe and Asia, plus avian genes and human genes. Scientists call this a "quadruple reassortant" virus.

H1N1 flu is contagious. This new virus was first detected in the United States in April 2009. The virus is spreading from person-to-person in the same way that regular seasonal influenza viruses spread. H1N1 flu is NOT caused by eating pork or pork products. It is not a foodborne disease, it is a respiratory disease.

Illness with the H1N1 flu virus ranges from mild to severe. While the vast majority of people who contract H1N1 flu recover without needing medical treatment, hospitalizations and deaths have occurred.

About 70% of people hospitalized with H1N1 flu have one or more pre-existing medical conditions that place them in the "high risk" category for serious complications. These conditions include pregnancy, diabetes, heart disease, asthma and kidney disease.

Unlike the seasonal flu virus, adults older than 64 are at the lowest risk from H1N1 flu-related complications. CDC studies have shown that about one-third of adults older than 60 may have antibodies against this virus, it is unknown how much protection may be afforded against H1N1 flu by an existing antibody.

Symptoms of H1N1 Flu

H1N1 is similar to seasonal flu but symptoms may be more severe and include vomiting and diarrhea. All flu types may cause:

- Fever
- Sore throat
- Headaches
- Chills
- Coughing
- Runny or stuffy nose
- Body aches
- Fatigue

Alameda County public health will be conducting, in partnership with city officials, 25 clinics in November and December. These "PODs" (point of distributions) offer HINI vaccination to uninsured residents who are at the highest risk of complications from HINI exposure. For the first time in California, paramedics are able to vaccinate our citizens as a component of their scope of practice. Public Health has facilitated the administration of the H1N1 vaccine by providing the vaccine, logistical support, and storage and administration equipment to our EMS providers.

Where to get more information:

- Alameda County Public Health website *acphd.org*
- *Flu.gov*

Two forms of influenza vaccine, both for seasonal flu and for H1N1, are available.

- The nasal spray vaccine is live and attenuated. This means that the vaccine has been made deliberately weak so that it cannot cause disease. Also, the vaccine has been engineered to produce antibodies only in parts of the body (the nose) in which the temperature is cool. The vaccine cannot cause disease or produce antibodies in the lungs; it dies there. It is extremely safe and effective but should not be given to persons under the age of two or over the age of 49, persons who have chronic or immune deficiency conditions, pregnant women, among the groups. It is perfectly safe for persons who have received the nasal vaccine to be in contact with except patients who have had organ or stem cell transplants.
- The other format is the "shot," that contains inactivated (dead) virus in it. It may safely be given to all persons, except those with allergies to the vaccine or its components, aged six months and up.

The most important thing you can do is to get the vaccine to protect yourself, your loved ones, your colleagues, and your patients.

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Field Manual Updates 2010

By Dr. James Pointer, EMS Medical Director

The 2010 EMS Field Manual will introduce several important changes for the upcoming year. The policies will be effective December 1, 2009.

For the first time we have a good medication for nausea and vomiting. Ondansetron (Zofran) is safe, effective, and can be given in 4 mg. dosage, IV, IM, or P.O. (Policy: Severe Nausea)

Dr. Ron Dieckmann's exciting new pediatric software, PemSOFT, will make its debut. This innovative and easy-to-use program features up-to-date clinical information, procedure "how-to's," the latest resuscitation algorithms, and an electronic version of our policies and procedures. Field personnel will access PemSOFT on their unit or engine computers.

Finally, our system is moving to the introduction of cardio cerebral resuscitation (CCR). This "new CPR" emphasizes the non-stop delivery of blood to the brain during cardiac resuscitation. In its pure form, CCR omits positive pressure ventilation until late in the resuscitation, deletes pulse checks and other interruptions, and incorporates "enhanced" cardiac centers (facilities at which angioplasty is performed for all STEMI (including post-arrest and cooled) patients.) We hope to introduce all the components of CCR as policy for 2011 depending on upcoming research. (Policy: CPR)

New innovations include the "pit crew" approach. This style of resuscitation minimizes interruptions (pit stops) during compression and ensures a pre-planned role and responsibility for all members of the responding team. Introduction of the pit crew approach, in one Florida system improved survival by over 30 percent. (Policy: CPR)

In conjunction with our hospitals, we will introduce induced hypothermia. Our protocol will be simple and straightforward: application of eight cold packs to a patient who is unconscious but has return of spontaneous circulation (ROSC) following cardiac arrest resuscitation. We will carefully track survival information and other clinical metrics. (Policy: Therapeutic Hypothermia)

To conform with our approach in adults, we will be introducing the EZ-IO for pediatrics. The EZ-IO is another tool that facilitates rapid treatment in cardiac arrest patients. (Policy: Intraosseous Infusion Procedure - Pediatric)

I thank you for your continued hard work and diligence in incorporating these changes into your practice. The best devices and medications and the most elegant approaches and treatment are effective only with their application by bright and committed paramedics and EMTs.

Thank you for your many contributions to our EMS system!

OFD Evaluates LUCAS Device

By Juliet Henshaw, EMS Coordinator, Oakland Fire Department

The American Heart Association's 2005 Guidelines for cardiac resuscitation place heavy reliance on good, effective cardio-pulmonary resuscitation (CPR) that is fast, hard and has few interruptions. Studies have shown that with the AHA 2005 Guidelines, CPR performed by trained personnel tends to decrease in effectiveness after a few minutes. Several devices are available to assist in providing effective CPR with minimal interruptions and after evaluating several devices, the Oakland Fire Department EMS Division has selected the LUCAS (Lund University Cardiac Arrest System) for evaluation and study.

The LUCAS is a CPR device that performs external cardiac compressions on adult patients whose hearts have stopped beating and are non-breathing due to a primary medical condition. This system runs on compressed air and has no replaceable parts or single patient use parts, so there are no costs, other than compressed air, to maintain the system.

The LUCAS has been widely used in Europe, but has recently been FDA approved for use in the United States. Local EMS systems that are utilizing the LUCAS are Hayward Fire Department, San Jose Fire Department and Contra Costa County Fire Department.

The Oakland Fire Department - EMS Division has teamed with Physio-Control/Medtronics to receive seven devices on loan until the device has been used on a minimum of 50 patients.

The study will compare data from patients with a primary medical cardio-pulmonary arrest that receive treatment with the LUCAS, King Tube Airway, EZ-IO and the RES-Q-Pod compared to conventional manual CPR, ET or King Tube airway, IV or EZ-IO and the RES-Q-Pod.

The stations selected for the evaluation and study have been identified them as the stations within the Fire Department with the highest incidence of medical cardiac arrest patients. The other chest compression device being used in Alameda County is Zoll Auto Pulse. It is currently being used by the Fremont Fire Department whose personnel are very satisfied with its performance.

Urban Shield 2009

By Jim Morrissey, Alameda County EMS, PHCC

Gregory J. Ahern, Sheriff, Alameda County, emphasizes the fact that *Urban Shield 2009* will challenge the skills and physical capabilities, along with testing knowledge and abilities, of all who participate. Comprised of numerous Tier-1 critical infrastructure sites, as well as identified high value targets and/or problem areas within the greater San Francisco Bay Area, this 50 plus hour, non-stop exercise will engage "head on" real life scenarios that address "emerging future threats."

This October's *Urban Shield 2009* will involve EMS professionals in 'real life' scenarios with SWAT team backup. Four person teams made up of EMTs and paramedics will enter the scene – a school shooting with multiple victims down in various states of severity. A SWAT team will provide close quarter force protection as the first responders enter the cleared scene to begin initial triage and treatment of the victims. Each of the 27 law enforcement SWAT teams will go through the exercise with a team of first responders. EMTs and paramedics from area fire departments and ambulance companies are working four hours volunteer shifts during the 50 hour event.

The opportunity that *Urban Shield 2009* presents to the emergency response community is unmistakably profound. This multi-agency, multi-discipline, national, and now international mix of people come together for the sole purpose of increasing our preparedness for any large scale disaster, terrorist act, or complex law enforcement event. The addition of EMS and fire agencies is not only welcome, it is critical.

EMS has always been an important partner with law enforcement in the response to crime, accidents, fires and other emergencies. We support law enforcement efforts by providing advanced life support capabilities within a moment's notice. Fire department-based EMS providers, 911 contracted ambulance providers, and other private ambulance services all work side by side with law enforcement on a daily basis. Law enforcement, fire department services and EMS support are much like a "three legged stool" with each component being critical to the success of any large scale operation.

Law enforcement SWAT call outs are often supported by having EMS units stand by close to the event without putting EMS professional in harm's way. Law enforcement efforts are executed with more confidence knowing that medical support is close by. Many SWAT teams have EMS professionals integrated into the team to provide on scene care and to interface with the fire and EMS agencies if need be.

Recent school shootings, terrorist acts and military experience highlight the need for rapid triage, treatment and transport for trauma victims in order to have a better chance of survival. There is a strong case to be made for SWAT teams to be working with EMS providers as they render care in less than ideal conditions. Clearly, training together in opportunities such as *Urban Shield* will show what works well and what needs to be improved before a real life event.

A report released by NYU's Center for Catastrophe Preparedness and Response reveals some disturbing findings regarding EMS training and support: EMS has received only 4% of the 3.8 billion dollars distributed for emergency preparedness since 9/11, though they constitute one-third of the total number of emergency responders. Also, according to this study, more than half the paramedics and EMTs in the U.S. have received only one hour or less of training in Weapons of Mass Destruction. Thankfully, the Alameda County Sherriff's Department is not guilty of excluding other disciplines in training opportunities. In addition to Urban Shield, they sponsored and hosted the International School of Tactical Medicine's two week long Tactical Medicine Course for local agencies.

For more pictures from *Urban Shield 2009* check out the EMS website in mid-November.

2-1-1 is to Social Services
What 9-1-1 is to Emergency Medical Services

2-1-1 is a single-point of access for free health, housing, and human services in Alameda County. Trained resource specialists are available 24/7 to assess callers' needs and provide comprehensive and up-to-date information on a wide range of services. EMS personnel can give the number to those they encounter that need specialized services. This multilingual phone line is a free and confidential service for the public. 2-1-1 callers can get instant access to such resources as:

- Emergency shelter bed availabilities
- Housing-related services such as voucher programs
- Substance abuse residential care facilities
- Support groups
- Educational opportunities
- Job training programs
- Tattoo removal services
- Mental /physical health clinics
- Basic needs like food and clothing

This service provides the most comprehensive and up-up-to-date information including *The Big Blue Book 2009* - a Directory of Human Services for Alameda County produced by Eden I & R, Inc. Their goal is to ensure that every community member has full knowledge and access to available resources. For more information go to: 211alamedacounty.org.

Staff Changes at EMS

Dale Fanning, Deputy Director, was named Acting EMS Director after **Michael King** resigned to pursue other interests. Michael was with EMS for 3 ½ years.

Bill Sugiyama, PHCC, has moved to the Oakland Fire Department as the EMS Fire Division Manager. Bill served at EMS for almost seven years where he managed unusual occurrences, trauma, CCT-P, helicopter transports, and the TAC – the Trauma Advisory Committee.

Senai Kidane, MD, joined EMS as the EMS/Disaster fellow for 2009-2010. "My interest in EMS began after going on paramedic ride-alongs with the Oakland Fire Department during my residency. I met a great bunch of guys, enthusiastic about their work and eager to grow. Although I was there to learn from them, they made me feel like the role model and were grateful for knowledge I passed on." Dr. Kidane focuses on how he can incorporate his public health background into his future career goals. Through Dr. Jocelyn Garrick, his mentor, he is learning how EMS activities are intertwined with community public health initiatives. He adds, "I am particularly interested in improving pre-hospital performance standards through active research and becoming a leader in our county's disaster preparedness operations. I look forward to a productive, dynamic year learning from all of you." Dr. Kidane can be reached at senai.kidane@acgov.org or 510.618.2042.

Kris Helander-Daugherty, PHCC, retired on August 21st. Kris is only the second person to retire after 20 years of service at EMS. The first was the late Ben Mathews who served as EMS Director from 1974-1994. The EMS News sat down with Kris to ask her about the past 20 years at Alameda County EMS.

How long were you with Alameda County EMS?

I started in October 1988.

Over the course of your career, what are some of the things you did for us?

I think my three most important contributions were the field manual, the website and my work on the state's Emergency Medical Services Agency (EMSA) task force that rewrote the continuing education regulations.

When I first came to EMS I was given the responsibility of maintaining and updating the field manual. Back then each paramedic was given a four inch binder with all EMS policies including all administrative, dispatch, first responder, base hospital and of course, patient care policies. It was my goal to separate the field policies out and publish them in a pocket-sized version. It took more than 10 years but the first EMS field manual was published in 1999.

(Continued on page 5)

Spotlight on Acting EMS Director, Dale Fanning

Dale Fanning's first EMS experience was a ride-along with Acme-Western Ambulance in Oakland, as a student nurse. "Our first call was a cardiac arrest in a low-top Cadillac. The patient lived, and when we visited him the following day in the ICU, he thanked us, and I was hooked on EMS."

Dale grew up in Oakland and began her career as a critical care nurse at Merritt Hospital (Now Summit), while working part-time as an EMT for Acme-Western. She married a paramedic and in 1978 they bought Mt. Shasta Ambulance Service. Operating the smallest private rural paramedic service in the state, Dale wore many hats - serving as field evaluator, conducting field audits, and running the office. She also taught ACLS and was the Program Director and Primary Instructor for the EMT-I program at the local college, and the first EMT-II program at Siskiyou General Hospital in Yreka.

Following the sale of the company, Dale moved back to the Bay Area and joined the staff of Alameda County EMS in 1988 as a Prehospital Care Coordinator (PHCC). In 1997, she left to become the Performance Improvement Director for Kaiser's east bay service area, and then went back to school to earn a graduate degree in organizational psychology.

Beginning in January, 2001, Dale worked as a terrorism preparedness consultant, helping Oakland and Fremont Fire Departments develop their Metropolitan Medical Response System (MMRS) under a federal grant. Following the events of 9/11, Dale worked with Sonoma and Napa Counties to help them develop their plans to receive and distribute the Strategic National Stockpile. After working with the Alameda County Sheriff's Office on a Countywide Terrorism Response Plan, Dale returned to Alameda County EMS in 2004 as a PHCC. She became Assistant Director in 2006 and Acting Director in April, 2009.

Editor's Note: In our next issue, Dale will share her philosophy about the role of local EMS agencies, and her thoughts on opportunities for continued improvement of our EMS system.

Traffic Safety Efforts Save Lives in California

In California in 2008, 1,920 people know that they are alive today because they used seatbelts, child safety seats, motorcycle helmets, or had cars equipped with air bags.

- **33** children age 4 and under saved by being properly restrained in a child safety seat
- **1,424** adults and children age 5 and older saved by using seat belts
- **173** front seat occupants saved by the deployment of frontal air bags
- **291** motorcycle riders and passengers saved by wearing a helmet

From the Medical Director

Then and Now Errors - The Winner of the Silver Ingot

The second quarter issue of EMS News carried a story by Dr. Pointer, "Then and Now… A Story of One City." Two prehospital scenarios were presented, one set in 1978, the other in 2010. Each part of the story placed readers into the same cardiac arrest call, with the first responders and their actions presented in detail. The 1978 call was rough, with the patient dying, whereas the 2010 call went smoothly the patient survived.

Dr. Pointer challenged readers to find errors in how the 1978 call was run – offering to give a silver ingot to the person finding the most correct answers. Bruce Armstrong, a Newark Fire Department Captain/Paramedic, was the winner, finding 21 errors. Bruce wrote, "Ok, so some of the errors aren't clinical in nature, but I thought I'd list what I could. I'm not sure what a silver ingot is, but I had fun finding the errors." The EMS Agency congratulates Bruce on his win. Go back to the last newsletter or check it out online to reread the story. Below are the 21 errors Bruce found in the story:

1. "van in the driveway" (we park in the street)
2. "Probably a goner" (negative attitude from the start)
3. "ambled to the front door" (we usually move faster than ambling"
4. "leaned the stretcher against (the house). We bring the gurney inside when/if possible.
5. Asking the girl her name (not concerned with the patient's history)
6. "wrist pulses" (should check carotid)
7. "mouth to mouth" (well…that's what was done back THEN)
8. "slap to the chest" (I guess the precordial thump was standard practice then too)
9. "Every few minutes, resuscitation efforts stopped" (now we know time is muscle)
10. "finger sweep" (airway being addressed AFTER mouth to mouth)
11. Another pulse check at the wrist
12. 35 breaths per minute (patient should have plenty of air in the stomach after a minute or so)
13. Pulse check with a thumb.
14. Pulse check at the groin (instead of carotid)
15. Pulse check "for a second" (longer evaluation needed)
16. "Well, give her a minute or so" (sounds like nothing was done for that one minute)
17. 6 compressions per minute
18. "We'll see what happens (I think patient will get deader)
19. "…and then let's call it a day, we've done all we could" (ceasing resuscitation efforts with minimal effort)
20. "back to the shop for embalming" (no coroner or autopsy?)
21. No FD response before "ambulance".

Dr. Pointer adds, "Bruce actually found more errors than I did. With the advent of some of the principles of cardio-cerebral resuscitation, much of what we do 'now' in a cardiac arrest will become tomorrow's errors."

Staff Changes *(Continued from page 4)*

That same year I discovered the internet and I really thought EMS should have a website. I knew nothing about it, but I was given the go-ahead. I took some courses, worked with the County ITD department and within three months the first EMS website went live. I maintained it right up until almost my last day. I am very proud of that accomplishment.

Another area that I had an impact on was continuing education (CE). I was asked to participate on a State task force to look at CE requirements. Back then paramedics were certified by the county they worked in and CE was divided into didactic courses and field care audits. The problem was a medic could have a ton of CE in one category but if he/she was short even one hour in the other category - no recertification. Additionally, some counties had divided CE requirements into more categories: four hours trauma, two hours pediatric, and more. Plus CE providers had no requirements and CE was not accepted statewide. I first suggested that we get rid of the categories and let paramedics decide what type of CE would be of the most benefit. After much discussion the new CE requirements were issued as guidelines and eventually added to regulations.

How has the agency changed over the years?

We now do many more projects and have branched into new areas of emergency medical services. The research we do is amazing and has changed how EMS is done. Adding injury prevention has expanded the emergency care aspect of EMS into preventing illness and injury, and our new data collection system allows us to make changes based on data and research.

Can you share your future plans?

I have been asked to return to EMS as a retiree and will work part time on the RFP process, the upcoming transport and first responder agreement, and "other duties as assigned." I will also be launching an online business creating and fixing PowerPoint presentations. My website is *FixMyPowerPoint.com* and should be up very soon.

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WHAT'S NEW ON THE WEB

- For the latest **H1N1** information go to acphd.org
- The **2010 Field Manual** will be available online with interactive PDF clickable links, and full manual download in mid December.

EMS WEBSITE:
acgov.org/ems

Falls Prevention Clinics

By Colleen Campbell, Senior Injury Prevention Coordinator

State Legislators in California recognized the importance of fall prevention in 2008 when they passed legislation declaring the first week of fall as "Fall Prevention Awareness Week." This year it was the week of September 20–26.

Falls were the leading cause of nonfatal injuries in 2007 that were treated in emergency departments throughout the United States. Falls were the number one cause of deaths due to unintentional injuries in people aged 65 and over.

To address this issue, the Alameda County Medical Center (ACMC) and the Senior Injury Prevention Partnership (SIPP) announced the establishment of a Fall Prevention Clinic which will open at Highland Hospital in January of 2010.

Wright Lassiter, the CEO of ACMC, says, "Fall Prevention is a public health priority in our county. By supporting Fall Prevention Awareness Week and fall prevention activities, ACMC contributes to raising the [falls] awareness of Alameda County residents and meeting the needs of an aging population."

Falls are usually caused by a combination of factors, and effective fall prevention programs must include components to address each factor. The clinic at Highland will provide older adults who have been identified by a physician to be "at risk" for a fall with fall risk assessments by a physical therapist, medication reviews by a pharmacist, fall risk reduction education, and home safety resources and nutrition information.

Highland is an active partner in SIPP, which is the longest running senior injury prevention program in the state. That membership provides support from experts, information on the latest research and model programs, and input from senior service providers throughout the bay area.

Stefany Kaplanes, the ACMC Trauma Department's Community Injury Prevention Coordinator states, "It's time to start thinking about prevention - especially if a patient already has a history of prior falls. The Fall Prevention Clinic will provide the attention and care our senior population needs in order to preserve their independence, improve their quality of life and keep them from having to go to the emergency department."

The next issue of EMS News will have more information on the grand opening of Highland Hospital's Fall Prevention Clinic.

NEWS & ANNOUNCEMENTS

EMS for Children – November 12 is the 12th Annual EMS for Children Conference. This year's theme is Toddlers to Teens and Everything In-Between. Held in Sacramento, the conference will give 7 CE hours to paramedics, EMTs and RNs. Topics include pediatric asthma and trauma, piercing & tattoos, teens & high-risk behavior and more. Lunch is included. Registration is $100.00. Download the conference brochure and application at http://www.emsa.ca.gov/news/pdf/EMSCBrochure.pdf.

Acute Stroke Symposium – On Monday, December 7, the Kaiser Permanente Post-Acute Care Center in San Leandro will host a class on stroke prehospital assessment and treatment. Four and one half hours CE wll be given to paramedics and EMTs. The event is free and includes lunch. Seating is limited. Sign-up at with an email to Jeanette.L.Engle-Ramirez@nsmtp.kp.org.

2010 EMS Field Manuals are available through your employer. Extra copies may be purchased at the EMS office for $8.00.

CPR Facts – A study reported by the open-access journal BMC Medicine found that every second of interrupted chest compressions during resuscitation reduces the likelihood of success by 1%.

Subscribe to receive the EMS Newsletter electronically. Sign up at our website acgov.org/ems to have the EMS News delivered to you electronically. Look for this icon on our home page. e-Subscribe Questions can be directed to John Vonhof at 510-618-2038 or john.vonhof@acgov.org.