

August 2007



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by Ken Bourne, W6HK, Chief Radio Officer

At the last City/County RACES meeting on June 25, 2007, we discussed several upcoming events, such as the Orange County Fair (with many RACES units in Orange County exhibiting at the ham radio booth between July 13th and August 5th), HAMCON (September 8th), Volunteer Mutual Aid Drill (September 15th and 16th), City/County RACES Drill (October 6th), SONGS Siren Drill (October 24th), and RACES Academy (November), in addition to individual city events and meetings. We took a vote on whether to cancel the October 6th City/County RACES Drill, due to the time commitments for VMAD only three weeks earlier. Except for a couple of RACES officers who had an understandable concern about overcommitting their members, the majority of those attending this meeting said we need more practice, and voted with great enthusiasm to hold both VMAD and the City/County RACES Drill!

We Need to Practice our Skills

Due to the available space at the Sheriff's training facility where VMAD will be held, we are limiting the number of radio amateurs on the communications team to 33 each day of the drill, who will serve within various teams, with a total of more than 240 volunteer participants each day. That will limit the number of participating radio amateurs to 66 for

both days. We hope that many more than 66 will be participating in the City/County RACES drill three weeks later, from all the city and county RACES units. That is another reason for holding both drills, so that *all* RACES members will have an opportunity to practice their skills in the City/County drill, even if they were unable to attend VMAD.

Responding Automatically

We respect the time that each RACES member must commit to his family, job, church, home maintenance, and other activities, but we are gratified that so many RACES members are committed to improving their emergency communications skills by participating in all these drills and events. We are amazed at how quickly and flawlessly law, fire, and medical personnel respond to emergencies. They know what to do, automatically, because they practice. With the many events occurring this year, we in RACES (and affiliated units) are getting more practice than in previous years. We don't know what our next major emergency will be, whether a fire storm, major earthquake, terrorist attack, HAZMAT spill, flood, etc. Will we be ready? With practice and careful preparation, we will be ready to respond, and be an asset to the agencies we serve, as we work together to save lives and property.

The Next
OCRACES
Meeting is

August 6, 2007

1930 Hours

HCA Warehouse
and EOC
Santa Ana

Tour of HCA EOC
and Comm Vehicle



Orange County Sheriff's Department
Michael S. Carona, Sheriff-Coroner

Heat Stress: Taking Care of the Public and Us

by Dr. Ken Miller, MD, PhD, Medical Director, Orange County Fire Authority

Heat stress and the associated heat illnesses certainly are related to season, but can occur with occupational exertion even when the climate is cool. The fire service is challenged with treating the public as well as our own members when exertion or heat exposure becomes a problem.

The body conducts heat to and from the environment through convection, conduction, and radiation and loses heat to the environment through evaporation. Heat is generated within the body from metabolism and muscle contraction. Evaporative heat loss is the most effective tool to lower body temperature.

The terms used to describe the heat illnesses are confusing and inexact. Heat cramps, heat exhaustion, and heat stroke are commonly used. The most important concept is that as heat stress progresses the clinical consequences are a progression from mild to major symptoms and not a distinct jump from one syndrome to another. Heat illnesses develop when muscular activity and/or heat exposure exceed the body's ability to dissipate heat. Dehydration and heat illnesses occur together but the exact role dehydration plays in the evolution of serious heat illness is still controversial. Adequate hydration does seem to limit the progression of mild to moderate heat illness.

Mild to moderate heat illness (heat exhaustion) presents with irritability, headache, dizziness, nausea, vomiting, weakness, decreased performance, and syncope. During this period body temperature is normal or slightly elevated and regulatory mechanisms of body temperature are functioning normally. Severe heat illness (heat stroke) progresses on to collapse, mental confusion, altered mental status, and seizures. In this condition the body's temperature regulatory mechanisms begin to fail and body temperature becomes markedly abnormal (40C, 104F, or higher). Eventually irreversible brain injury will result and cardiovascular instability will occur along with multiple organ system failure. A common misconception is that severe heat illness (heat stroke) manifests with hot, dry skin. This can occur when severe heat illness develops over a period of time primarily due to non-exertional heat exposure in the elderly and chronically ill ("classical" heat stroke). The more common exertional heat stroke evolves from the progression of less severe heat illness and can present with profuse sweating. The most reliable indicator of the progression from moderate to severe heat illness is alteration in mental status. This usually occurs at body temperatures above 40-41C (104-106F).

Primary treatment of heat illness is rapid cooling. The most effective external cooling measure is to expose the patient's head, neck, and chest, wet the skin, and fan the air to allow evaporation. This process continues until the body temperature decreases below 38C (100F). Airway management, control of seizures, and intravenous hydration are other early priorities.

Prevention is key. Weather conditions, environmental heat exposure, physical exertion, and personal protective gear all play into the development of heat stress. Weather conditions are predictable. Wet Bulb-Globe Temperature Index takes humidity, radiant heat, and ambient temperature into account in predicting heat stress. The simpler Heat Index uses ambient temperature and humidity to predict heat stress. Either of these indices can help design work-rest cycles. During a rest cycle a firefighter should seek shade, and remove the helmet, flash hood, and turnout coat to allow for maximal evaporative heat loss. When available a mister fan can be an additional tool to facilitate evaporative cooling. Insufficient cooling during a rest cycle can result in further heat accumulation during the next work cycle and increased predisposition to heat illness.

When possible, pre-exercise hydration can reduce the risk of mild to moderate heat illness. The role of hydration in heat stroke is still debated. In the absence of underlying health problems the National Athletic Trainers Association recommends drinking 500-600 ml (17-20 fl oz) of water or sport drink 2-3 hours before exercise and 200-300 ml (7-10 fl oz) 10-20 minutes before exercise. Generally rehydration during exercise requires 200-300 ml (7-10 fl oz) every 10-20 minutes [Journal of Athletic Training 2000, 35(2):212-224]. During short intense firefighting operations this may not be easily accomplished but it is possible during prolonged operations. It is possible to over hydrate. Drinking large volumes of water can dilute blood electrolytes and lead to confusion and altered mental status (hyponatremia and cerebral edema). For short intense exercise water is sufficient for rehydration. Sport drinks contain electrolytes and carbohydrates. The carbohydrate concentration should be 6-8% or less. Higher concentrations tend to slow gastric emptying and result in a sensation of fullness and cessation of drinking. Flavor and beverage temperature also contribute to voluntary rehydration. Cool fluids (50-60F) are more welcome than warm fluids.

Continued on page 3

Heat Stress *Continued from page 2*

Certain drugs that affect the body's temperature regulatory mechanisms or the ability to sweat can predispose a person to heat illnesses. Most notably some of the antihistamines (and all of the over-the-counter antihistamines) and decongestants can do this. Other drugs affecting body temperature regulation include thyroid hormone, stimulants (amphetamine, ephedrine), and some antipsychotic and antidepressant drugs. Other drugs for hypertension and angina like beta-blockers and vasodilators can limit exercise tolerance and diuretics can increase fluid loss. Caffeine and alcohol both act as diuretics and increase fluid losses in the urine. Drugs of abuse like methamphetamine and cocaine and energy supplements containing ephedrine can both alter body temperature regulation and increase heat production through muscular activity. In general performance-enhancing supplements are not evaluated by the Food and Drug Administration and pre-marketing safety and efficacy studies are largely nonexistent.

Hydration for Health and Performance

by Nancy Espinoza, MS, Wellness & Fitness Program, Orange County Fire Authority

When we think of dehydration, most of us picture someone under extreme conditions—a marathon runner at the end of a race, a football player during two-a-days, a firefighter battling a raging brush fire—who experiences dangerous fluid loss. But this is only part of the story.

Dehydration can also occur under far less extreme conditions and can result in impaired physical performance. Since water constitutes approximately 75% of your body, even a slight shortage can affect your energy output. Inadequate hydration reduces blood volume, which means less oxygen gets to your working muscles. Even mild dehydration, such as 1% of body weight, can increase muscle fatigue and impair muscle performance. Since a firefighter's job performance often depends on muscular strength and endurance, proper hydration is particularly important.

The effects of dehydration can include muscle cramps and reduced lactate threshold. Lactate threshold is the point at which your muscles begin to create more lactic acid than your body can dispose of or recycle, and a reduction in lactate threshold can lead to a decrease in your ability to sustain high-intensity activity and a faster onset of fatigue.

Dehydration can also affect mental performance, which is critical to on-the-job decision making. Approximately three-quarters of your brain is water, and insufficient hydration can impair your ability to think and react. Consequently, adequate hydration is vital to keeping thinking clear and reflexes sharp.

Although fluid requirements among individuals vary, the average person, during a moderate temperature, inactive day, will lose approximately 1.5 liters (six glasses) of water through urine production and another one liter (four glasses) through the skin and respiration. This amount of water loss has led to the recommendation that a person drink at least eight glasses of water per day. However, this is only the minimum recommendation to replace average fluid loss and does not account for other important factors, such as activity level, body size, and environmental conditions, which increase water intake requirements. In addition, drinks that have diuretic properties, such as caffeinated, alcoholic, and carbonated beverages, increase the daily fluid requirements.

While there are various methods of monitoring hydration status, including monitoring weight or body mass, the easiest and quickest way to monitor hydration status is to monitor urine color. Concentrated urine appears dark and yellow. In general, if your urine is dark or has an odor, you are dehydrated.

In order to avoid even mild dehydration, you cannot rely on thirst as an indicator. Thirst is a sign of dehydration and a sign that performance is already impaired—so you must drink fluids before you get thirsty. Increase your water consumption as the environmental temperature increases and as exercise intensity and/or duration increases. In addition, if you are prone to muscle cramps, include potassium-rich foods (baked potatoes with the skin, prunes, dates, avocados, etc.) in your diet.

Be aware of the signs of dehydration, such as weakness, dizziness, fatigue, nausea, headache, lack of sweating, increased body temperature, dry or sticky mouth, and low or no urine output. Dehydration—whether mild or severe—can have a significant impact on your performance and your health, and it can occur more quickly than most of us realize. Take every precaution to keep yourself safe and healthy during this summer season.

Next OCRACES Meeting: August 6th at HCA

The next County of Orange RACES meeting will be on August 6, 2007, at 7:30 PM, at the County of Orange Health Care Agency Warehouse and EOC in Santa Ana. Mike Steinkraus, N6PTN, will give us a tour of the facility, including the communications room and mobile communications command post. Directions to the meeting will be e-mailed to OCRACES members. Contact OCRACES Chief Radio Officer Ken Bourne, W6HK, if you need additional information on the location.

OCRACES to Exhibit at HAMCON on Sept. 8th

The next ARRL Southwestern Division Convention, called HAMCON 2007, will occur on September 7-9, 2007, at the Marriott Hotel, 3635 Fashion Way, in Torrance. OCRACES will have a table in the hall leading to the exhibit area, and will also display our emergency communications response vehicle outside the hotel. We urge all members to be present at least on Saturday, September 8th, to explain our operations to convention visitors, and to recruit new members for OCRACES. We also invite members of City RACES units and all amateur radio emergency communications groups in Orange County to spend time at our table to hand out literature and to promote their activities.

Volunteer Mutual Aid Drill: September 15-16

City and County RACES members, plus radio amateurs from the Hospital Disaster Support Communications System (HDSCS), American Red Cross, SKYWARN, CERT groups, etc., will participate in the Orange County California Citizen Corps Council (OCCCCC) Volunteer Mutual Aid Drill (VMAD) on Saturday, September 15, and Sunday, September 16, 2007. We will need 66 radio amateurs, 33 each day of the drill. The drill will be held at the Orange County Sheriff's training facility on Katella Avenue in Orange.

The purpose of the drill is to facilitate the mutual-aid concept in the time of disaster and utilize all affiliated volunteers belonging to a Citizen Corps program such as CERT, VIPS, Neighborhood Watch, Fire Corps, Medical Reserve Corps, and RACES or affiliated program. Pre-registration of volunteers is required. All communications volunteers must register through OCRACES Chief Radio Officer Ken Bourne, W6HK. Registration ends August 15, 2007, or as soon as 33 communications volunteers for each day have signed up, whichever occurs first. The total number of Citizen Corps volunteers each day will exceed 240.

Volunteers choose either Saturday or Sunday (not both days) and will receive training in ICS-100 and ICS-700, even if these FEMA courses have been completed previously. The courses will focus on conditions particular to Orange County and its agencies, and new certificates will be issued. Classroom training is followed by a practical exercise where volunteers will utilize ICS and their emergency training in disaster scenarios. This is a unique opportunity for volunteers to hone their skills and work with other volunteer programs.

The OCRACES emergency communications response vehicle will serve as the communications command post during the drill. We will also display Lt. Ralph Sbragia's (W6CSP) mobile communications trailer, which will simulate an EOC to which we will communicate voice, data, and ATV.

On-site registration will begin each day at 8:00 AM. ICS/NIMS training will occur from 9:00 AM to 11:30 AM. Lunch and scenario briefing will be from 11:30 AM to 12:15 PM. Lunch will be provided. Scenario activities at the facility's Laser Village will be broken into two teams, with Team A from 1:15 PM to 2:15 PM, and Team B from 2:30 PM to 3:30 PM. Breakdown will occur at 3:30 PM each day. Parking instructions will be e-mailed to all participants.

Watching The Web

*Web Sites of Interest to RACES Personnel
by Ken Bourne, W6HK, Chief Radio Officer*

State of California 9-1-1 Services
<http://www.td.dgs.ca.gov/Services/911/default.htm>



The design of the California 9-1-1 Emergency Communications Office Web site has changed. The goal of this Office is to enable public-safety answering points (PSAPs) to provide expedient telephone access to emergency services for all 9-1-1 callers. The 9-1-1 telephone number is a significant step in this direction. The Department of General Services (DGS), Telecommunications Division, 9-1-1 Emergency Communications Office, is committed to assisting PSAPs in the administration and funding of this lifesaving resource in their communities.

State of California 9-1-1 service information that can be accessed from this Web site includes:

- ◆ 9-1-1 Advisory Board Information
- ◆ State of California Wireless E9-1-1 Project
- ◆ State of California VoIP E9-1-1 Information
- ◆ State of California Next Generation E9-1-1 Network (NGEN) Project
- ◆ Master Purchase Agreement
- ◆ California 9-1-1 Emergency Communications Office PSAP Memos
- ◆ State of California 9-1-1/N-1-1 Legislation Information

Links are also provided to PSAP CPE Allotment Information, the California Chapter of the National Emergency Number Association (CalNENA), and the Association of Public-Safety Communications Officials International (APCO), including the Northern California Chapter (NAPCO) and the California Public-Safety Radio Association (CPRA), which is the Southern California Chapter.

SONGS Siren Drill: October 24th

OCRACES will participate in a SONGS Siren Drill on Wednesday, October 24, 2007, between 9:00 AM and 1:00 PM. We will be responsible for reporting the effectiveness of sirens at three locations—Norton Sand Company and two Northrop Grumman test sites. We will communicate from the siren locations to the Orange County EOC on an OCRACES repeater (although Motorola HTs on the County Admin repeater might be required from the Northrop locations, due to restricted access). An OCRACES member will be at the siren switching location in Control One, and will communicate via HT to OCRACES net control in the RACES Room. OCRACES Net Control (subnet) will communicate with the Drill net control (operated by Red Cross at Southern California Edison/San Onofre) on the CLARA repeater. Overall, we may need up to five OCRACES members for this drill.

The other subnets for testing other siren locations will be run by MARS (at Camp Pendleton), SOARA (at San Clemente and San Juan Capistrano), SCE (at state parks), and Red Cross (at Dana Point).

RACES News from Around the County

"RACES News" provides an opportunity to share information from all City & County RACES organizations in Orange County. Please send your news to: w6hk@ocraces.org

[Laguna Niguel](#)

We are extremely thankful that Laguna Beach Emergency Services and RACES Coordinator Paul Russell, KD6COP, is home and recovering from surgery. We have known Paul since he was the Disaster Coordinator for the County of Orange Health Care Agency Emergency Medical Services. From there he joined the Sheriff's Terrorism Early Warning Group before accepting his current position. Paul thanks God that the tumor that was discovered in the upper right lobe of his lung turned out to be benign, and there is no sign of cancer. Only a small portion of lung tissue, along with the growth, had to be removed. Paul also thanks his many friends for their prayers and for their blood donations.

[Hospital Disaster Support Communications System \(HDSCS\)](#)

Shortly after 8 PM on July 11, 2007, HDSCS Assistant Coordinator Jim McLaughlin, AB6UF, received a cell phone call from the House Supervisor at Tustin Hospital Medical Center. Power had gone down, all phones were down, and the hospital's ReddiNet* terminal was not functional. It was believed that a nearby power transformer had failed. Jim immediately contacted HDSCS Coordinator April Moell, WA6OPS, and put his base station on the air to coordinate the responding operators. Jim alerted the county's ReddiNet Central Point of the hospital's problem and advised how the Central Point could contact HDSCS for message relay into the facility. Meanwhile, April and her husband Joe, KØOV, were contacting HDSCS members on the "First Wave" call-up sheet. Within 26 minutes of the hospital's call, two HDSCS communicators were on site and connect-

ing to the hospital's rooftop antenna. They were Allen Bullock, KD6LCL, and Dave Mofford, W7KTS. A third operator, Bill Hegardt, K6WIL, was coming in the door at that moment, too. Fortunately, power was restored and phones were back on line within a few minutes. Three additional operators, already on the way, were called off. The three operators on site went into HDSCS's standard 30-minute "holding pattern" to make certain that phones were remaining up. Although this was not a major activation, it served as an excellent "scramble drill." HDSCS's rapid response showed the benefits of the prior meetings and drills with this hospital and all the others in the county. Hospital staff members on duty knew that HDSCS exists and they knew how to contact them. HDSCS's plan for activating operators led to a rapid response, not only because they had identified the members living closest to that facility, but also because these members had their portable radio gear at the ready.

*ReddiNet® is a commercial 900 MHz digital inter-hospital communications system sold to hospitals by the Hospital Association of Southern California.

[Dana Point](#)

The City of Dana Point, in partnership with the Orange County Sheriff's Department, Orange County Fire Authority, and Southern California Edison, will hold an Emergency Preparedness Expo on Saturday, August 18, 2007, from 10:00 AM to 3:00 PM, at Dana Hills High School. Included are emergency equipment displays, live demonstrations, and emergency preparedness products.

[County of Orange](#)

Congratulations to OCRACES Member Chuck Dolan, KG6UJC, who has upgraded his Amateur Radio license to General Class.

August 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6 <i>Monthly Meeting & Weekly Net</i>	7	8	9	10	11 <i>RACES Breakfast</i>
12	13 <i>Weekly Net</i>	14	15	16	17	18 <i>Dana Point Emerg Preparedness Expo</i>
19	20 <i>Weekly Net</i>	21	22	23 <i>CPRA Meeting</i>	24	25
26	27 <i>Weekly Net</i>	28	29	30	31	

Upcoming Events:

- **Aug 6:** OCRACES monthly meeting, 7:30 PM, HCA Santa Ana
- **Aug 11:** RACES Breakfast
- **Aug 23:** CPRA Meeting, Santa Fe Springs
- **Sep 7-9:** HAMCON
- **Sep 15-16:** Citizen Corps Volunteer Mutual Aid Drill
- **Oct 6:** City/County RACES Drill
- **Oct. 24:** SONGS Siren Drill



www.ocraces.org



Mission Statement

County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety, and excellence. We will do so in an efficient, professional, and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.

County of Orange RACES Frequencies:

- 6m: 52.62 MHz output, 52.12 MHz input, 103.5 PL
- 2m: 146.895 MHz output, 146.295 MHz input, 136.5 PL *
- 23cm: 1282.025 MHz output, 1270.025 MHz input, 88.5 PL
- 1.25m: 223.76 MHz output, 222.16 MHz input, 110.9 PL
- 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 PL

* Primary Net - Mondays, 1900 Hours

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**“W6KRW ...
Serving
Orange County”**

Meet your County of Orange RACES Members!



Ken Bourne
W6HK



Scott Byington
KC6MMF



Harvey Packard
KM6BV



Ralph Sbragia
W6CSP



Joe Selikov
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Ernest Fierheller
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Randy Benicky
N6PRL



Bill Borg
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