Safety Dog

Wants You
To Be Safe!

The Safety Corner

From the Marine Corps Center for Lessons Learned

June 22, 2009

From the Director: Winter is over and Spring is just about in the record books. And with that comes June, the month in which it's akin to preheating an oven for the dog days of summer. It gets so hot that, with the dawn of a new day, you can't wait for dusk. The next morning, your T-shirts look like a retro 1970's era tie-dye. Only this time, the designs come from dried perspiration salt stains. And the cycle begins for yet another day.

In this month's issue, we're taking a look at heat, and its effects on you and your equipment. Heat is not an issue that you can afford to "power through". All performance parameters for man, machine, and supplies degrade with an increase in temperature. Some marginalize the effects of heat in a desert environment, "…it's a dry heat…". I say there's no therapeutic value of the heat to a Marine or Sailor when it gets that hot; 125 is still 125 and you're still going to get a first degree burn if you touch that wrench, vehicle or airframe. Or you'll perform a slow cook on yourself if you're walking a patrol, manning a checkpoint, working on a flight line, driving in a convoy or performing maintenance, if you don't take preventive measures. We've included discussions about some of the environmental and physiological factors associated with heat and some preventive measures you can take to at least reduce the chances of becoming a heat casualty.

In this issue, we've also included a report on the USS Forrestal (CV-59) fire off the coast of Vietnam in July, 1967. I'll readily concede that some of our readers weren't born when this happened, yet the lessons are still germane. Getting ready to launch aircraft on a strike mission, a Zuni rocket "cooked off" from one aircraft and struck another fully loaded aircraft on the flight deck. It started a chain reaction of events leading to the loss of 134 and injuring of 161 shipmates. Was this completely attributed to the heat? No, there was some human error involved, but you can imagine how hot it was and the crew fatigue levels in July, in the Gulf of Tonkin, on a steel flight deck aboard ship, in the middle of the day, with a Carrier Air Wing's complement of attack aircraft starting their engines ready for launch, after four days of non-stop missions.

With the summer comes the reemergence of motorcycles on our roads. With riding a motorcycle in the summer months comes the "go-no go" decision about wearing protective equipment while on the bike. Do I sacrifice comfort versus safety??? We've included a story of a Yuma Marine who was wearing protective equipment when he had to "dump his bike" to avoid a collision. He also had successfully completed the MCAS Yuma basic rider's course, and the sport bike rider's course. He walked away from the accident with minor cuts and bruises. Please let us know how we're doing with getting the "safety" word out. Take care of yourselves and watch out for one another.

Semper Fidelis,
C. H. Sonntag
Director MCCLL

How are we doing? Give us your thoughts

Next Issue: Negligent Discharge

Your ideas can be directed to the Marine Corps Center for Lessons Learned (MCCLL) Director,
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Inside this issue:

JUNE 2009
Marine Corps Center for Lessons Learned
Safety Corner

Heat-Related Injuries

MSMR

Throughout history, heat-related injuries have posed significant threats to the health and operational effectiveness of military members and their units. Decades of lessons learned during military training and operations and findings of numerous research studies have resulted in doctrine, equipment, and methods that significantly reduce the adverse effects of military activities in heat. Still, physical exertion in hot environments causes hundreds of injuries among U.S. service members each year.

In 2008, there were 299 incident cases of heat stroke and 1,467 incident cases of heat exhaustion among active component members. Overall crude incidence rates of heat stroke and heat exhaustion were 0.21 and 1.04 per 1,000 person-years, respectively…

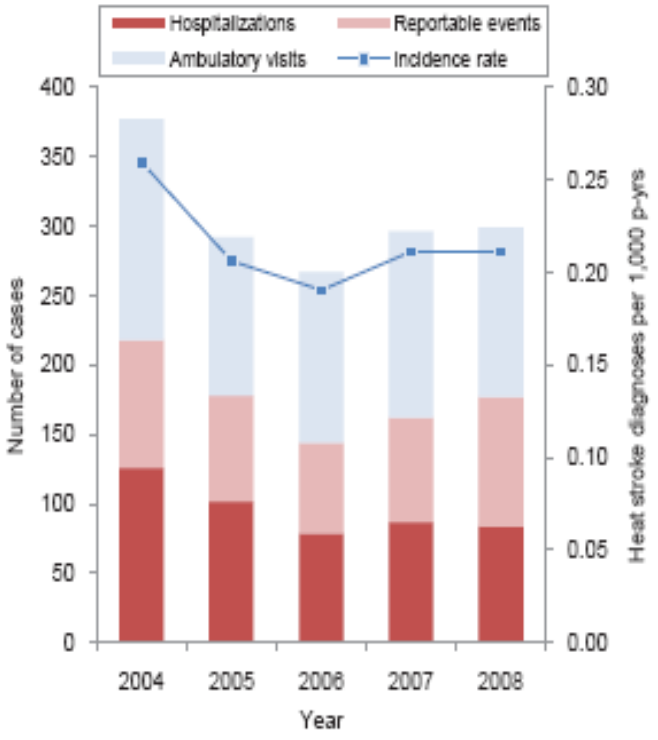
The overall rate of heat stroke in 2008 was lower than the rate in 2004 and similar to the annual rates from 2005-2007. The overall rate of heat exhaustion in 2008 was lower than in any of the previous four years.

In 2008, as in previous years, incidence rates of heat stroke and heat exhaustion declined with increasing age and were higher in combat-related occupations compared to other occupational groups. The heat stroke rate was nearly 1/3 higher among males than females; however, the heat exhaustion rate was higher among females than males. Rates of heat stroke were similar in the Army and Marine Corps; however, the rate of heat exhaustion was more than 80% higher among Marines than soldiers. Relative to the Army and Marine Corps, the Air Force, Navy, and Coast Guard had much lower heat injury rates.

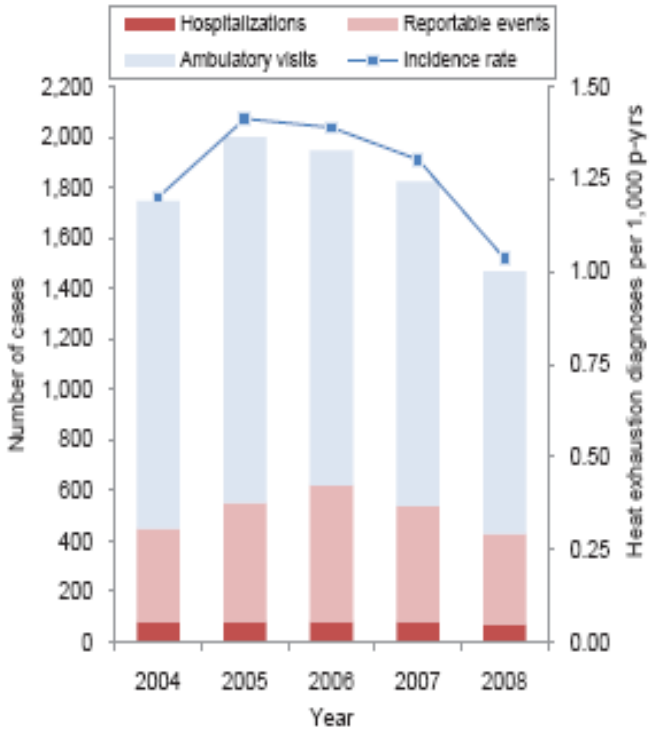
Between 2004 and 2008, heat-related injuries were diagnosed at more than 300 medical facilities worldwide. However, 14 facilities treated at least 200 cases each and accounted for approximately 60% of all cases. Since 2004, the five locations with the most cases overall were MCRD Parris Island/Beaufort, SC, Fort Bragg, NC, Fort Benning, GA, MCB Camp Lejeune/Cherry Point, NC, and Fort Campbell, KY.

Military activities in hot and humid environments are persistent, significant threats to the health and operational effectiveness of service members. Of all service members, the youngest and most inexperienced are at highest risk of heat-related injuries including life threatening heat-associated conditions such as heat stroke, exertional hyponatremia, and exertional rhabdomyolysis.

Heat stroke cases and incidence rates, by source of report and year of diagnosis, active component, U.S. Armed Forces, 2004-2008.



Heat exhaustion cases and incidence rates, by source of report and year of diagnosis, active component, U.S. Armed Forces, 2004-2008.

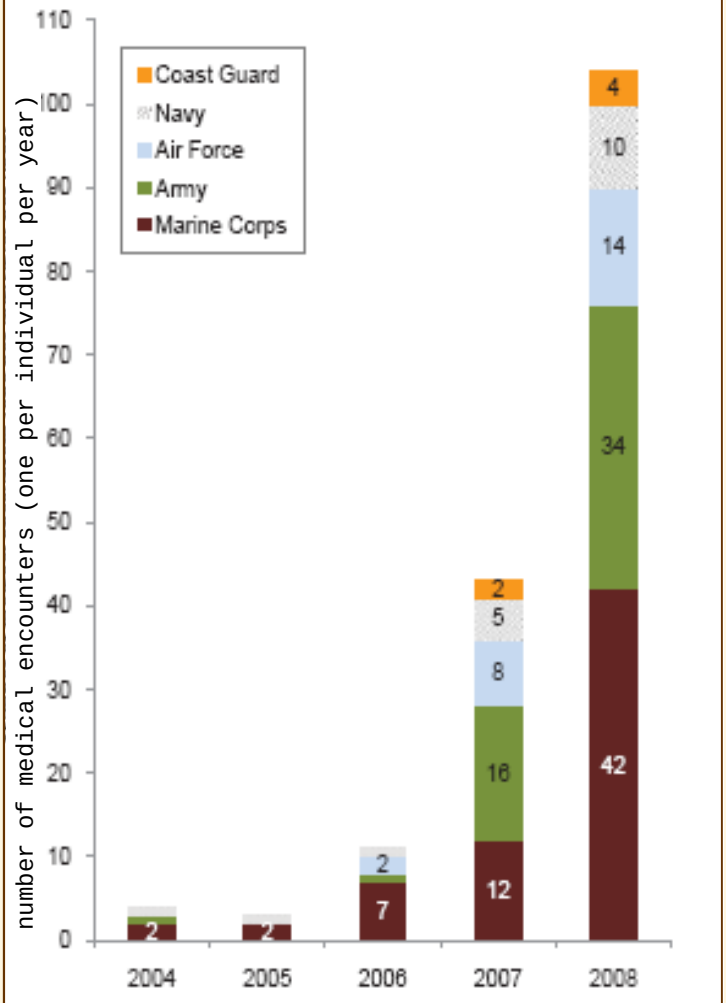


Incident cases and rates of heat stroke and heat exhaustion. Active components. U.S. Armed Forces 2008

	Heat stroke ICD-9-CM: 992.0		Heat exhaustion ICD-9-CM: 992.3-5	
	No.	Incidence rate*	No.	Incidence rate*
Total	299	0.21	1467	1.04
Sex				
Male	267	0.22	1196	0.98
Female	32	0.16	271	1.35
Age group				
<20	38	0.38	381	3.83
20-24	153	0.33	607	1.30
25-29	59	0.18	260	0.79
30-34	23	0.11	98	0.49
35-39	18	0.10	86	0.50
>=40	8	0.05	35	0.24
Race/Ethnicity				
White	201	0.22	977	1.08
Black	44	0.19	237	1.03
Other	54	0.19	253	0.89
Service				
Army	192	0.36	683	1.29
Navy	20	0.06	136	0.42
Air Force	15	0.05	169	0.52
Marine Corps	65	0.34	462	2.38
Coast Guard	7	0.17	17	0.41
Military status				
Enlisted	263	0.22	1373	1.16
Officer	36	0.16	94	0.41
Military occupation				
Combat	99	0.33	327	1.10
Healthcare	24	0.21	93	0.81
Other	176	0.18	1047	1.04

*per 1,000 person-years

Hospitalization for presumed exertional rhabdomyolysis by service and calendar year. Active component U.S. Forces 04-08



Environmental Factors NSC

1. Ambient air temperature dictates the direction of heat flow from (or to) the body. When air temperatures are below normal, body temperature, heat loss to the surrounding environment is rapid. When air temperatures are high, the body can only dissipate heat by sweating where the heat is carried away by sweat evaporation at the skin surface.

2. Wind velocity. Body heat is carried away by air currents. The higher the velocity of these currents, the faster the heat loss. The rate of heat loss diminishes as air temperatures increase. When the body stops sweating (as in heat stroke), the condition reverses itself and the body absorbs heat rapidly. High wind velocity can also produce windburn which will influence thermal regulation.

3. Humidity. Ambient air, at any given temperature, can only absorb so much moisture. When the moisture content (humidity) of the air is high, sweat evaporates slowly and the rate of heat loss is diminished. When humidity is low, sweat evaporates quickly and the rate of heat loss is rapid.

4. Radiant heat is the heat produced by the reflective energy of the sun or equipment in close proximity to a human body. The radiated heat is absorbed into the surrounding air or directly into the body. In either case, the body's ability to cool itself is hampered.

Physiological Factors

NSC

Predisposing factors which may adversely effect heat injury prevention are:

1. **Illness.** Personnel suffering from or recovering from an acute or chronic disease.
2. **Previous history.** Personnel who have a history of heat illness (exhaustion, stroke or cramps).
3. **Skin trauma.** Personnel suffering from sunburn, heat rash or other dermatologic malady. The body's heat regulatory mechanism is hampered at the skin surface.
4. **Dehydration.** Individual's fluid output is greater than fluid intake. Causes include vomiting, diarrhea and insufficient water intake.
5. **Fatigue.** Physical and mental weariness can cause a lack of concern and result in a failure to take proper precautions against heat injuries.
6. **Obesity.** Body fat will interfere with the heat regulatory mechanism, cause the individual to expend more energy to accomplish a given amount of work and could be an indicator of poor physical conditioning.
7. **Poor physical conditioning.**
8. **Alcohol and drug use.** Alcohol and certain medications, including immunizing agents, decongestants and allergy remedies interfere with the body's heat regulatory mechanism. Alcohol should not be consumed for 24 hours prior to heat stress.
9. **Sickle cell trait.** Sickling of blood cells impairs circulation and increases risk of injury. Persons with sickle cell trait should be advised of their risks and preventive methods.

Types of Heat Injuries

NSC

Heat Cramps. Muscle cramps of the arms, legs, and/or stomach and excessive sweating.
Treatment: Move individual to a cool shady area or improvise shade; loosen clothing. Monitor the individual and give water as tolerated; should slowly drink at least one full canteen.

Heat Exhaustion. Heavy sweating with pale, moist, cool skin; headache, weakness, dizziness, and/or loss of appetite, heat cramps, nausea (with or without vomiting), chills (gooseflesh), rapid breathing, change in mental status, confusion, and tingling of the arms and/or feet. Core temperature is 104ºF or less.
Treatment: Move individual to a cool shady area or improvise shade; loosen or remove clothing. Monitor the individual and give water as tolerated; should slowly drink at least one full canteen. Spray or pour water on individual and fan to cause a cooling effect. Urgent medical evaluation is indicated, especially if there are mental status changes. If you have ice packs, use them. Put them in arms, armpits, and neck.

Heatstroke. The individual stops sweating (hot, dry skin). They first may experience headache, dizziness, nausea, fast pulse and respiration, seizures and mental confusion. They may collapse and suddenly become unconscious. Core temperature is greater than 104ºF, typically around 108ºF(although it may be as low as 102ºF). THIS IS A MEDICAL EMERGENCY.
Treatment: Heat stroke is a life-threatening medical emergency. Move the individual to a cool shady area or improvise shade; loosen or remove clothing. Start cooling the individual immediately. Spray or pour water on individual and fan. Elevate legs. If you have ice packs, use them. Put them in arms, armpits, and neck. If conscious, individual should slowly drink at least 1 cup (8 oz.) of cool water every 20 minutes. Do not force water if abdominal discomfort occurs. Treatment must be administered within minutes or irreversible damage or death will occur.

Fluid Replacement Guidelines For Warm Weather Training

Flag Condition	WBGTI F WET-BULB GLOBE TEMPERATURE INDEX	Easy Work		Moderate Work		Strenuous Work	
		Work/*Rest	Water Per Hour	Work/*Rest	Water Per Hour	Work/*Rest	Water Per Hour
Green	80 - 84.9	No Limit	1/2 Qt	50/10	3/4 Qt	40/20	1 Qt
Yellow	85 - 87.9	No Limit	3/4 Qt	40/20	3/4 Qt	30/30	1 Qt
Red	88 - 89.9	No Limit	3/4 Qt	30/30	3/4 Qt	20/40	1 Qt
Black	90 & >	50/10	1 Qt	20/40	1 Qt	10/50	1 Qt

Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade if possible.

Note 1: For MOPP gear, PPE, or body armor, ADD 10°F to the WBGT Index.

Note 2: Work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specified heat category. Individual water needs will vary +/- ¼ quart per hour.

Training Properly in The Heat Essential to Marine Fitness

LCpl Gregory Aalto

Whether you are preparing for a deployment to the Middle East or just getting ready to sweat through another Yuma summer, training in the heat is essential to an individual's safety.

In the Western Iraqi desert, July and August temperatures can reach 130 degrees Fahrenheit. However, a dilemma is created when units here want to train in extreme heat to prepare for conditions they will face in the Middle East but are limited by the Wet-Bulb Globe Temperature Index flag conditions guidelines for physical activity.

The index is created from four variables: air temperature, humidity, radiant heat and air movement. With this information, station weather observers determine the appropriate flag for the conditions.

"To get black flag conditions here the temperature is usually around 107 degrees," said Lance Cpl. Bryan Weingart, station weather observer.

This is a harsh contrast to more humid parts of the country. "Black flag occurs normally between 85 and 95 degrees here," said Lance Cpl. Steven Yates, weather observer at Marine Corps Air Station New River, N.C.

The system, developed for military training in the 1950s, has four flags: green, yellow, red and black. A green flag (80-84.9 WBGT) indicates leaders should be extra observant of those who aren't acclimatized to the area. A yellow flag (85-87.9 WBGT) means troops should hold from strenuous exercise for the first two or three weeks in the area. A red flag (88-89.9 WBGT) signals a halt in activity for Marines who have not been acclimatized for three months and holds those who have been there long enough to six hours of activity a day. Finally, a black flag (more than 90 WBGT) indicates all nonessential activity will be halted. Essential activities are defined as major training evolutions where disruption would cause undue burden on personnel or resources, be excessively expensive or significantly reduce combat readiness. All efforts should be made to reschedule any outdoor training during cooler periods of the day.

These guidelines are based on a Marine in utilities or physical training clothing. If a Marine is wearing nuclear, biological, chemical weapon protection or body armor the scale lowers 10 degrees down in every category. When the temperature is low enough to allow, heat training does have benefits. "Acclimatization to exercising in heat is critical to the safety of an individual," said Dr. Chuck Chisum, Arizona State University exercise physiology instructor.

In extreme heat, the heart and respiratory systems increase their use dramatically. With less water in the system, plasma thickens and weakens the heart's ability to move blood, said Chisum. People who have good cardiovascular health and are not overweight will naturally acclimate better. "Having too much fat is like wearing a blanket all day, every day," said Chisum.

It takes two months of living in a warm environment for a person who is not acclimatized to become acclimatized, said Chisum. Getting your body accustomed to the heat is only temporary. Once a person is in a colder climate, his body immediately readjusts, said Chisum.

Caution should also be taken for children and teenagers. Until a person becomes fully developed, he cannot adapt to heat as well. Even for those who are acclimatized, dehydration should be a concern as well. The body can lose two liters of sweat per hour training in hot weather.

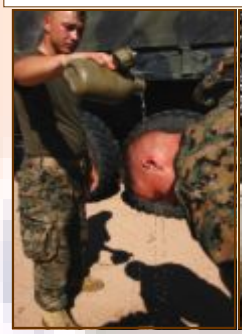
Water is far more effective than air at cooling the body, said Chisum. For individuals with large builds, preventing dehydration is even more important. A study by the Journal of Athletic Training showed that even if a larger person drinks an appropriate amount of water for his size, he will still be more dehydrated than a smaller person drinking his appropriate amount. The study showed that the increased size of a large person's pores allows more sweat to be released without sweating less.

Dehydration can cause heat cramps, exhaustion and stroke. Death from heat stroke can occur at temperatures as low as 70 degrees.

"Training through the heat is important. If one person trained in a mild climate and one in the heat, the person from the heat would have an advantage in a mild climate," said Chisum.

The principal factors affecting human thermal comfort during summer are:

- Air movement
- Air temperature
- Relative humidity
- Level of physical work or activity
- Insulation of clothing worn
- Presence of hot surfaces acting as radiant sources of heat






Battery Storage And Operating Temperatures US Army Power Sources Center of Excellence

Storage temperatures: Store batteries as cool as possible but not above 122 degrees F. **High storage temperatures will ruin a battery**. Most military batteries have a thermal switch that will trip if exposed to temperatures greater than 190 degrees Fahrenheit. This thermal "safety" switch is not resettable, thus the batteries will be DEAD!

Commercial batteries like AAs, Cs, Ds, ect.. can be cooked by the heat, so keep ALL batteries as cool as possible! Rechargeable batteries left in temperatures below -4 degrees F must be thawed before charging or they may vent. Allow batteries to thaw for at least six hours. Storing rechargeable batteries for extended periods will cause permanent capacity loss; even faster loss in HOT environments, so charge them at least every six months or better yet . . **USE THEM**!

- Storage at high temperatures reduces the capacity of all battery types.
- Battery chemistry is important to know because some chemistries are not compatible and should not be stored together; check the MSDS.
- Lithium batteries have special storage requirements and should always be segregated from other types of batteries.

Operating: Rechargeable batteries are designed to operate and accept a charge from -4 degrees F to +122 degrees F (-20 degrees C to +50 degrees C). At low temperatures, they may operate, but will not accept a charge cycle. For missions at extreme temperatures, non-rechargeable batteries are your best choice!

RECHARGEABLES: USE THEM OR LOSE THEM

AVOID EXTENDED STORAGE

DO NOT STORE IN HOT CONNEX BOXES

DO NOT LEAVE BATTERIES EXPOSED TO DIRECT SUN LIGHT

Battery Safety US Army Power Sources Center of Excellence

When used incorrectly or mishandled, batteries can be hazardous.

BATTERY SAFETY
Do not take batteries apart – reduce the likelihood of becoming a "battery incident" statistic.

Material Safety Data Sheets
(MSDS) should be on hand and displayed in the work area for each type of battery.

Classes of fire: A, B, D
Casualties: Loss of Life 134; Injured 161
Date of incident: 29 July 1967
Cost to USN: $72M

Description: ZUNI rocket accidentally fired through the fuel tank of an aircraft, rupturing the tank and igniting the spilled fuel. This fire in turn cooked off a 1000-pound bomb. The bomb explosion ruptured other aircraft fuel tanks and spread the fire across a large area to other aircraft on the after end of the ship. Seven major explosions then occurred. The force of the exploding flight deck ordnance penetrated to the hangar bay and initiated fires on the 03, 02 and 01 levels aft. Fuel spilled from the damaged aircraft, setting fires on the sides, sponson and fantail, as well as fueling fires in the hangar bay.

Summary of Events and Causal Factors: The ship was engaged in high tempo combat operations against targets in North Vietnam and had been operating on station for four days without suffering any casualties. The ship was in a high state of readiness and had received top grades during its work-ups prior to deployment. However, no major flight deck or hangar bay fire training had been conducted during the work-ups. The primary flight deck fire parties were certified, but no backups were identified or trained.
Forrestal was in material condition YOKE, which had been checked three hours prior to the fire, and was preparing for a bombing strike on the Vietnam mainland. The aircraft on deck were crowded together, each with a full load of bombs, rockets and JP-5 aircraft fuel. As engine start-up commenced, an errant five-inch rocket fired from an LAU-10A launcher on the port inboard wing station of an F-4 fighter aircraft. (The probable causes of ZUNI rocket firing were human error and material failure.) The rocket crossed the flight deck, struck a crewmember, then hit a fully loaded 400-gallon fuel tank on an A-4 aircraft 100 feet away. The tank burst into flames, igniting the entire aft section of the carrier's deck. The burning fuel was spread aft and fanned by 32-knot winds over the deck and by the exhaust of at least three jets spotted on deck just forward of the conflagration.

Approximately 53 seconds after the fire started, one firefighter with a portable PKP extinguisher ran toward a plane in an attempt to save a pilot. Other personnel manned high capacity fog, foam and salt-water hoses on catwalks. Other flight deck leaders directed their men to approach the fire with single foam lines. Ninety seconds after the start of the fire, however, the first bomb thermally detonated. Nine seconds later, a second bomb exploded with more violence than the first. These explosions complicated rescue and firefighting efforts to a crippling degree. Twenty-seven personnel in the fire parties were killed or injured, thus decimating the front line capability on the flight deck. New flight deck leaders took charge and formed new fire parties, attacking the fires and jettisoning ammunition, burning wreckage and bombs over the side (as shown in Figure 3-2). However, since many of these new fire team members were untrained and unfamiliar with the equipment, progress was slow and sometimes dangerous. At one point, two parallel fire parties, one with foam and one with water, attacked the same aircraft fuel fire. As the foam team covered the flames and moved forward, the water team attempted to augment the effort and instead washed away the foam, causing a reflash and injuring several of the foam team members.

Survivability Principles Applied: Forrestal arrived on station with a qualified, confident crew. However, the crew's work-up had not included massive conflagration training and therefore the ship was not prepared for the catastrophe it suffered. Firefighting teams were skilled but did not have qualified replacements in the event of casualties to primary team members. Replacement crewmembers, who had to man firehoses and jettison gear, were not familiar with proper firefighting procedures, systems or personnel protection equipment and were, therefore, sometimes counterproductive in their efforts. Additionally, egress training was not sufficient, a fact which contributed to crewmembers being trapped in their berthing compartments immediately after the initial explosion. There were equipment shortcomings as well. The only firefighting equipment available on the flight and hangar decks were portable fire extinguishers and 2.5-inch hose lines dispensing protein foam.

Information ascertained from this incident led to several damage control improvements:

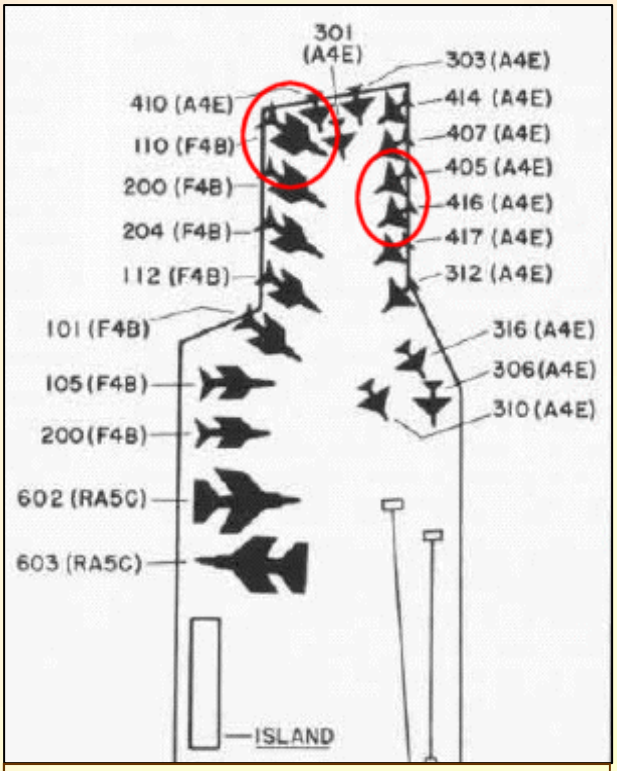
- Installation of aqueous film-forming foam (AFFF) to combat large hydrocarbon fuel fires
- Use of 1.5-inch instead of 2.5-inch protein lines, which has resulted in a 75 percent reduction in response time and 200 percent increase in firefighting capability
- Increased complement of survival support devices by 300 percent and oxygen breathing apparatus by 20 percent
- Development of additional escape exits, especially from berthing, living and working spaces
- Development of an egress marking system to facilitate personnel escape from shipboard compartments
- Requirement to familiarize crewmembers with egress procedures annually.

After the Forrestal fire, the feasibility of converting the flight deck wash-down system to a firefighting system was

investigated and executed. This included placing "zone" control buttons for discrete ship regions, including the flight deck, in both primary flight and navigation bridges. A typical carrier flight deck today is divided into 15 zones, each having the capability of discharging 1000 gallons of AFFF per minute. These implemented lessons learned enable present-day carriers to control Forrestal-type conflagrations within minutes by using AFFF in the washdown system. Additionally, fire pump management and personnel protection are now stressed when training new recruits to combat conflagrations or basic fires.

Despite the many incidents of personal bravery and professionalism by the ship's crew, it was beyond the power of humans or machines to stop the onrush of burning fuel and exploding ordnance. Adequate means to deal with such a mass conflagration simply were not available. Despite weaknesses in the areas of preparation and practice, the significant elements of professionalism and persistence solidified by strong leadership eventually overcame the casualties and saved the ship. Several sailors who were interviewed following the event believed their ship could not be destroyed by the fires they faced and, thus, if they pressed their efforts, they would eventually extinguish the conflagration. This positive attitude which has also been called perception influenced their efforts and led to a successful conclusion.

This is what is believed to be the last photo taken of the Forrestal on the morning of July 29, 1967



A drawing of the stern of Forrestal showing the spotting of aircraft at the time. Likely source of the Zuni was F-4 No. 110.

Firefighting efforts on Forrestal during the 1967 fire.

Picture source: www.forrestal.org/fidfacts/page13.htm and www.navsource.org/archives/02/cv-59/59f-0729.htm

Protective Gear Safeguards Yuma Marine

Gunnery Sgt. Bill Lisbon

A Yuma Marine walked away from a potentially deadly motorcycle accident with only minor injuries Feb. 3, 2009, thanks to training and wearing protective gear.

Lance Cpl. Charles M. Gardner, 21, was travelling east on 32nd Street in Yuma when a car swerved into his lane forcing him to lay down his Yamaha FZ6 sport bike to avoid a collision. "It was really the only thing to do," Gardner said.

Gardner, an air traffic control equipment maintainer with Headquarters and Headquarters Squadron here, was wearing a full face helmet, padded motorcycle riding jacket, gloves, hiking boots and cargo pants at the time of the accident.

Gardner's right shoulder took the brunt of the impact with the pavement, but with the thick shoulder pad of the riding jacket, it wasn't even bruised. The palm of one of his gloves was shredded and left a hole, but Gardner's skin wasn't affected. Gardner's primary injuries were abrasions and bruising on his legs after his cargo pants tore.

Immediately after the accident, he was transported to Yuma Regional Medical Center where he was examined and later released.

"Gardner was doing everything right. He couldn't have done anything better," said Staff Sgt. Lee Kasem, ATC maintenance shop chief and fellow motorcycle rider.

A virtually inexperienced rider, Gardner bought the 600 cc motorcycle, his first, in April 2008. In May 2008, he attended the basic rider's course on station, and he took the sport bike riders course here in November 2008.

That training helped save his life and was "worth several months of riding experience," Gardner said.

Gardner and Kasem are among several other Marines and civilians at ATC who own or ride motorcycles or ATVs. Having riders throughout the ranks allows

Lance Cpl. Charles M. Gardner, an air traffic control equipment maintainer at the Marine Corps Air Station in Yuma, Ariz., suffered only minor injuries Feb. 3, 2009, when he laid down his Yamaha FZ6 sport bike on 32nd Street east of the air station to avoid a collision with a car that veered into his lane. Gardner attributes his safety to the protective gear he was wearing at the time.

them to share personal riding experiences, lessons learned and maintenance tips with each other, increasing their knowledge and ability, said Kasem. Despite the accident, Gardner plans to keep riding after his bike is repaired.

His advice to other riders: invest in a riding jacket and don't skimp on protective gear just to meet the minimum requirements, like wearing a thin long-sleeved shirt. "Wear your gear," he said.

Additionally, bike riders should be aware of other drivers on the road, some of whom aren't as aware of motorcycles as they are of larger vehicles, he said.

Motorcycle-related deaths are on the decline Corpswide, after a record year in motorcycle-related deaths in 2008 when 25 Marines died in wrecks, according to the Naval Safety Center.

Four Marines have died in motorcycle accidents since Oct. 1, 2008 (at the time of this story), including one assigned to Yuma's Marine Wing Support Squadron 371. In approximately the same time frame, seven Marines died on motorcycles from Oct. 1, 2007, through Feb. 15, 2008.

In late April 2008, the spike prompted the Commandant of the Marine Corps, Gen. James T. Conway, to order his commanders to find and report all the motorcycle riders in their ranks and verify the license, registration and training of each. By May 1, 2008, 10 Marines had already died in motorcycle accidents.

On Sept. 15, 2008, the results of a Corps wide motorcycle census found that approximately 13 percent of Marines owned motorcycles or similar vehicles.

Of the 26,052 Marine bike riders, 14,471 of whom own sports bikes, 353 were stationed in Yuma. Slightly less than half, 166 Marines here, own sports bikes.

Additional Safety Links

Safety Corner Feedback

Thank you for the excellent source of information “The Safety Corner”… the Marine Corps Center for Lesson Learned. I came across it as I was searching CDC and other sources. It’s a great source I can use to educate folks here as they’re attending their Right-Start briefings in FOB camp, KIRKUK. Thank you again sir.
v/r
Venerando N. Cortez, SSgt, USAF

Bravo Zulu, MCCLL in establishing a useable repository for information and publishing very timely and useful information for the masses. Your service is useful to me in my current civilian billet; additionally, I have provided several of your publications to my family for their knowledge enhancement.

An observation and comment; I noticed in the “USMC and USN Mishap Summary” section of the current Safety Corner we refer to those Marines injured or killed in mishaps as E-1, E-4, O-5, etc. Upon entry into the USMC I was taught, unlike the other services we refer and identify Marines by rank (Pvt, Cpl, LtCol, etc) not pay grade (E-1, E-4, O-5, etc) regardless of the situation or circumstances. As of yet, I have not met a Marine (former or active) who was not proud of the rank he or she had attained.

Kevin Scott

You do a good job at pointing out the "bad" things that are happening in theater; instead of making Safety a "Big Brother is Watching You" type of issue, why not reward people for turning in and/or reporting items found wrong? In the Aircraft Maintenance world, where they are concerned with foreign object damage, they used to have a "Golden Screw" Award. Why not make safety the same way? Positive reinforcement goes a lot further in getting the message to stick than negative reinforcement. If people will be given something "nice" or a coin, plaque, poster, or such, it may become something desired, not feared.

Just a thought.
Alicia Harris

I have been an Army Aviation Safety Officer for 38 years and I think the "The Safety Corner Newsletter", is one of the best Lesson Learned tools that all services can use to help keep all soldiers informed.

CWO5 US Army

I would like to say thanks for your time in the matter we have discussed over the past few days. The mental health assistance from professionals works and can return warriors to the battlefield to continue success, until the command is made aware that you are getting assistance. Take care and thanks for looking out for these guys.

GySgt USMC

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USMC AVIATION CLASS A MISHAPS (includes AGMs not included in the Flight Slide)

06 May 09 AH-1W crashed with fatalities.
29 Dec 08 AV-8B crashed on PAR final approach, pilot died.

USMC GROUND CLASS A

24 March 09 (Okinawa) SSgt died as a result of a non-combat explosive ordnance disposal operation.
09 Mar 09 (Iraq) LCpl died from an accidental discharge of a weapon.
09 Feb 09 (Camp Lejeune) Sgt died after being struck in the chest by a ricochet bullet while pulling targets at the shooting range.

USMC OPERATIONAL MOTOR VEHICLE

28 Feb 09 (Iraq) Cpl died from injuries after being struck by a tactical vehicle.
23 Oct 08 (Hauula, HI) One civilian was killed when a 7-ton tactical vehicle collided head-on with civilian vehicle.
09 Oct 08 (Afghanistan) Cpl died in a HMMWV mishap when the vehicle rolled over while he was in the turret gunner position.

USMC PRIVATE MOTOR VEHICLE FATALITIES

17 May 09 (Jacksonville, NC) E-2 died in an automobile mishap.
10 May 09 (Yuma, AZ) Pvt and LCpl died and an PFC in critical condition as a result of a single vehicle mishap.
05 May 09 (Jacksonville, NC) Cpl died in an automobile mishap.
28 Apr 09 (Yucca Valley, CA) Maj died when his motorcycle struck a turning vehicle.
24 Apr 09 (Independence, MO) Pvt died when his motorcycle struck the back of a tractor trailer.
13 Apr 09 (Freedom Township, Blair Co, PA) Sgt died when his vehicle departed the roadway.
10 Apr 09 (Sneads Ferry, NC) SSgt died in motorcycle mishap when he collided head-on with another vehicle.
04 Apr 09 (Riverside/San Diego County Line, CA) LCpl died in a motorcycle mishap when he collided with an oncoming vehicle.
01 Apr 09 (Kendall County, TX) LCpl died in a single vehicle mishap.
28 Mar 09 (Spartanburg, SC) PFC driver and LCpl passenger died in a single vehicle mishap.
24 Mar 09 (Westover, MD) LCpl died in an automobile mishap when vehicle left the road and struck a tree.
22 Mar 09 (Japan) SSgt died when the moped he was operating hit a curb and he was thrown from the vehicle.
18 Mar 09 (Marietta, GA) Sgt died when he lost control of his motorcycle.
15 Mar 09 (Mt. Carmel, IL) Cpl died in a single vehicle automobile mishap.
05 Mar 09 (Reading, PA) SSgt died when his vehicle struck a utility pole.
14 Feb 09 (Oceanside, CA) Cpl died in a motorcycle mishap.
31 Jan 09 (San Diego, CA) LCpl died when her vehicle went out of control, struck a barrier and caught fire. Speed was a factor.
20 Jan 09 (Milton, PA) Two PFC's died and one PFC was critically injured when their vehicle crossed over the median into oncoming traffic.
15 Jan 09 (Sneads Ferry, NC) Cpl died in a motorcycle mishap when he lost control of the motorcycle and collided with an oncoming vehicle.
13 Jan 09 (Salton City, CA) Cpl died in a motorcycle mishap when he failed to negotiate a turn and he departed the roadway.
27 Nov 08 (Greeleyville, SC) SSgt died when his vehicle ran off the road and he was ejected from the vehicle.
22 Nov 08 (Vista, CA) Two LCpl's died in an automobile mishap when their vehicle struck a tree and caught fire.
08 Nov 08 (Arlington, VA) PFC died when he was struck by a vehicle while walking on a highway.
03 Nov 08 (Pensacola, FL) PFC died in a motorcycle mishap when he lost control and struck a tree.
02 Nov 08 (Jacksonville, NC) LCpl died when the vehicle in which he was a passenger struck a parked car and flipped.
17 Oct 08 (Phoenix, AZ) GySgt died in a motorcycle mishap when he ran into the side of a vehicle that failed to stop at a red light.

USMC OFF-DUTY/RECREATIONAL FATALITIES

03 May 09 (Cortland County, NY) Pvt found dead at a friend's home after night of drinking.
11 Apr 09 (Romania) GySgt died while on leave in Romania. Cause still under investigation.
07 Mar 09 (Imperial Sand Dunes, CA) Cpl died in an ATV mishap.
14 Dec 08 (Fallbrook, CA) Cpl died from excessive consumption of alcohol.
23 Nov 08 (Edith Falls, Australia) LCpl died in a recreational swimming mishap.
11 Nov 08 (Spring Hill, FL) LtCol died in a recreational scuba diving mishap.
08 Nov 08 (Onna, Japan) Cpl drowned while snorkeling after experiencing rough water conditions.
02 Nov 08 (Phoenix, AZ) Cpl died when a shotgun accidentally discharged as he was retrieving it from his vehicle.
13 Oct 08 (Camp Lejeune, NC) PCF died from excessive consumption of alcohol.
09 Oct 08 (Port Richie, FL) LCpl died from excessive consumption of alcohol.

USN AVIATION CLASS A MISHAPS (includes FRMs not included in the Flight Slide)

04 Oct 08 F/A-18F struck a Sailor on flight deck during catapult launch. 1 fatality. (FLT REL)

04 Oct 08 Helicopter struck tailboom of lead helicopter during landing resulting in hard landing and rollover. 1 non-DOD fatality.

USN AFLOAT CLASS A MISHAPS

07 May 09 CPO died during dive training evolution.

24 Apr 09 PO3 died while performing ship maintenance.

04 Feb 09 SVCMN lost at sea when RHIB flipped while being lowered into the water when tending line became hooked on crane cable.

USN SHORE CLASS A MISHAPS

17 Feb 09 (Ft. Jackson, SC) CDR died in a training mishap.

25 Dec 08 (Bahrain) Navy RHIB collided with a moored barge resulting in 1 fatality and 2 injuries.

USN PHYSICAL TRAINING CLASS A MISHAPS

27 Apr 09 (Mayport, FL) PO2 collapsed and died during command sponsored PT.

30 Jan 09 (Naples, IT) CAPT died shortly after complaining of stomach pain during semi-annual PRT.

USN PRIVATE MOTOR VEHICLE FATALITIES

09 May 09 (Lee, NH) PO2 died in an automobile mishap when and oncoming vehicle crossed centerline and struck head-on.

05 May 09 (Torrance, CA) PO1 died in single vehicle rollover.

26 Apr 09 (Kettleman, CA) PO3 died in an automobile mishap when she was struck head-on by another vehicle.

23 Apr 09 (Green River, UT) PO2 died in automobile mishap when he collided with a tractor trailer.

03 Apr 09 (Norfolk, VA) ENS died in a motorcycle mishap.

14 Mar 09 (Salerno, IT) PO2 died in a motorcycle mishap.

07 Mar 09 (Norfolk, VA) PO3 died when his motorcycle struck another vehicle.

02 Feb 09 (Tulare County, CA) PO3 died when his car was struck by a drunk driver traveling northbound in southbound lane.

01 Feb 09 (San Bernardino, CA) PO3 died when his car was struck from behind and caught fire.

10 Jan 09 (Ojai, CA) PO1 died in a motorcycle mishap when he drifted over the center line and collided with an oncoming vehicle during a group ride.

03 Jan 09 (Lafayette, LA) Seaman died when his vehicle rolled over into water and submerged.

07 Dec 08 (San Diego, CA) PO3 died when his vehicle departed the roadway while negotiating an interstate on-ramp. Alcohol was a factor.

15 Nov 08 (Nassau, FL) PO3 died when the vehicle in which he was a passenger veered into the median barrier and he was ejected from the vehicle.

08 Nov 08 (Big Bear, CA) CW05 on terminal leave died when his cruiser motorcycle drifted into oncoming traffic while rounding a curve.

10 Oct 08 (Boron, CA) PO3 died in an automobile mishap when he swerved into oncoming traffic and collided head-on with another vehicle.

05 Oct 08 (Spring View, CA) PO2 died from injuries sustained in a motorcycle mishap.

01 Oct 08 (Kleberg County, TX) LTJG died when he was struck by an automobile while riding his bicycle.

USN OFF-DUTY/RECREATIONAL FATALITIES

28 Dec 08 (Lombard, IL) SA died after being hit by freight train while walking on tracks.

27 Dec 08 (Grand Bland, MI) SA died after being found unresponsive after a night of drinking.

23 Dec 08 (Pace, FL) CAPT died from fall while trimming a tree.

Fatality Summary as of May 09

A wise son/daughter makes ones parents proud, but a foolish son/daughter causes gray hair.

Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep

Total Marine Fatalities FY09 49

Up from FY08

Total Marine Fatalities FY08 72

Total Navy Fatalities FY09 29

Down from FY08

Total Navy Fatalities FY08 105

PMV | GOV | Aviation | Motorcycle | Off Duty/Rec | Misc. | PT | Negligent Discharge | Training/Operational

Note: This report has been compiled from publicly available information and is not official USMC policy. Although information has been gathered from reliable sources the currency and completeness of the information reported herein is subject to change and cannot be guaranteed.