

# ARMY GROUND RISK-MANAGEMENT PUBLICATION COUNTERMEASURE

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MAY 1998

POV update  
POV FATALITIES  
THRU MAR FY 98  
56  
FY 97  
35

## The HEAT is on!

**G**ood ol' summertime. It's almost here and soldiers will be exposed to heat injuries, sunburn, drowning, boating and swimming accidents. These hot weather accidents present a challenge that deserve the utmost care and preparation. That's why this Countermeasure is dedicated to helping commanders and leaders recognize some of the hazards associated with summer.

**To keep the fun under the sun—think Risk Management!**



**Stop upward trend.** As of 31 March, we are halfway into FY98 and POV fatalities are still on an upward trend. In FY97, we had 35 POV fatalities at midyear. We have had 56 soldiers die so far this fiscal year. We must reverse this deadly trend and focus on positive, hands-on leadership to curb POV accidents. Everyone, at all levels, must get involved. We cannot continue to allow POV accidents to claim the lives of our young soldiers.

—BG Burt S. Tackaberry, CG, U.S. Army Safety Center

# Director's corner

**F**or many of us, the month of May simply marks the end of a school year and a change of seasons. This is the time when we are planning our vacations and weekends at the beach with family and friends.

Sunshine, heat, and humidity are a dangerous combination. These conditions present a challenge to all of us who train or exercise under the treacherous summer sun. The article, "Reduce Hazards of Heat Injuries" (page 3), explains what happens when soldiers are exposed to the harsh conditions of heat and humidity and the importance of hydration. We must ensure that our soldiers are aware of the heat injuries that can result.

The water-related articles, "Boat Smart From the Start" (page 7) and "Swimming" (page 9), explain that water-related activities such as boating, swimming, and fishing are fun but are to be treated with the utmost care and preparation. Most recreational boating accidents involve operator-controlled factors. The leading causes of fatal boating accidents are choosing not to wear a life jacket, boating under the influence of alcohol or drugs, operator inattention or carelessness, speeding, and falling overboard. Do any of these sound familiar?

I also want to take this opportunity to remind commanders of two important issues: Memorial Day safety briefings and *POV Risk Management Toolbox*.

I recommend leaders provide a safety briefing to their personnel prior to the upcoming three-day holiday weekend commemorating Memorial Day. The potential for serious accidents and injuries increases during this holiday as soldiers and their families take to the road in their POVs, as well as engage in other high-risk activities associated with the summer season.

I want all leaders to be aware of the *POV Toolbox* (2d ed.), which is available by contacting your local safety office, U.S. Army

Safety Center, or it can be accessed via the Army Safety Center website:

<http://safety.army.mil/toolbox.html>. This

toolbox contains a collection of "instant expertise" to assist commanders, leaders, and noncommissioned officers on how to reduce the risk of hazards that are killing our soldiers in POV accidents. It is designed to give leaders many options to build or reinforce an effective POV accident prevention program.

The *Leader's Guide to Using the POV Toolbox* is also available as a supplement to the toolbox and is accessible from the same sources. It is designed as a guide for first-line leaders to use in learning about the POV toolbox and teaching soldiers how to recognize and avoid potential hazards.

We are enthusiastic about the risk-reduction potential of these tools. As tasked by the Chief of Staff, Army, I have already started to brief the six-point program to every major command within the Army. As with any program, solid command support, with emphasis up and down the chain of command, is the key to success.

**ALWAYS REMEMBER – SOLDIERS DO BEST WHAT THE COMMANDER EMPHASIZES!**

—BG Burt S. Tackaberry, Director of Army Safety



**Editor's note:** Due to possible misinterpretation, we ask that the following be deleted from the *POV Toolbox Safety Quiz*: Question #3 on page 32 and Answer #3 on page B-1. These will be corrected in the next edition of *Toolbox*.

**POV Accidents: Speed =40%**



**Fatigue =37%**

**Situational Awareness =23%**

# Reduce hazards of heat injuries

**W**ith summer quickly approaching, soldiers need increased awareness of the hazards associated with hot weather training and the controls necessary to prevent heat injuries. Training in hot weather presents distinct hazards that have to be managed. Heat stress affects judgment, and accidents are the likely outcome. Increased body temperature and discomfort promote irritability, anger, and other emotional states. This can cause soldiers to overlook safety procedures or to take unnecessary risks.

Supervision is the key to protecting our soldiers from heat injuries. However, the individual soldier also plays an essential role in preventing heat injuries. Leaders and individual soldiers, as a team, can identify the early signs of heat stress and prevent casualties. Don't let personal 'hard knocks' be your teacher – be proactive!!!

☀ It was a hot July afternoon and a soldier was in his fourth week of basic training. Unit training was moved to the rifle range where the heat category rose to level 5 (WBGT > 90°). The soldier complained of headache, nausea, dizziness, and feeling overheated. Weather and symptoms suggested heat stress, so he was moved to the shade, his clothing was loosened, and he was given water. Over the next 1½ hours, he drank approximately four quarts of water and vomited repeatedly. The soldier required assistance in walking, and was again placed in the shade and instructed to drink more water. Over the next two hours, he drank an estimated 10-14 canteens of water and continued vomiting. By mid-afternoon, he was physically incapacitated and transported to the hospital. Despite intensive medical care, the soldier never regained consciousness and died of hyponatremia (associated with low sodium in the blood and excessive water consumption). Although the treatment started out correctly, **the maximum water intake the body can tolerate is 1½ quarts per hour.**

## Types of heat injuries

Most heat injuries, such as sunburn, heat cramps, heat exhaustion, and heat stroke occur during physical training, road marches, and

while training in MOPP gear, but can easily occur in any hot environment. The following examples represent these injuries with associated first-aid measures.

### ■ Sunburn

comes from over-exposure of the skin to the ultraviolet radiation of the sun. Few soldiers regard sunburn as an injury and most times it won't be. However, severe cases can be disabling and can lead to other forms of heat illness. Sunburn protection is an individual responsibility, but commanders must warn their soldiers of sunburn's effects.

✚ **Prevention:** Common sense dictates maximum use of shade, sunscreen, and/or clothing that covers as much exposed skin as possible.

■ **Heat cramps** are painful cramps of the muscles caused by a heavy loss of salt through sweating. An individual may lose more than a quart of water per hour through sweating, radiation, and urination. Generally, the cramps will disappear with treatment.

✚ **First-aid:** Move the victim to shade and loosen clothing. Treatment includes frequent intake of water, a cup (8 oz) every 15-20 minutes, not to exceed 1½ quarts per hour. **Thirst is not an adequate indicator of dehydration.** If cramps persist, dissolve ¼-teaspoon table salt in one quart of water, and have the victim slowly drink at least one quart of the salt solution. Do not use salt tablets!

Alcohol, coffee, and soft drinks are not substitutes for water. Alcohol increases dehydration, and coffee and soft drinks are not





absorbed as rapidly as water into body tissue. Commercial sports drinks are sugar-laden beverages that offer very little nutritional value, and may increase an individual's water requirements.

Adequate water consumption, with rest periods, is essential to prevent heat casualties during vigorous activities in hot environments. The practice of sustained "water discipline" involves water consumption at **regular planned intervals**, and must be enforced regardless of individual preference or thirst.

The charts below represent a modification of previous fluid-replacement guidelines. While still undergoing validation, it represents the best guidance currently available from the U.S. Army Research Institute for Environmental Medicine and the U.S. Army Center for Health Promotion and

Preventive Medicine.

■ **Heat exhaustion** is caused by excessive salt depletion and dehydration and characterized by symptoms of profuse sweating, headache, tingling sensation in the extremities, weakness, loss of appetite, dizziness, nausea, cramps, chills, and rapid breathing.

✚ **First-aid:** Lay victim flat in cool, shady spot. Elevate feet and loosen clothing. Pour water on victim and fan to cool. If conscious, have victim drink at least one canteen full of cool water and give the salt solution. If soldiers do not recover after an hour, **SEEK MEDICAL TREATMENT**.

■ **Heat stroke can be fatal; immediate action is required.** Generally patterned after heat exhaustion; however, skin will be hot and dry. Heat stroke is caused from prolonged exposure to high temperatures and

### Fluid Replacement Guidelines for Warm-Weather Training (Average Acclimated Soldier Wearing Hot-Weather BDU)

Heat Category	WBGT °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest*	Water Per Hour	Work/Rest*	Water Per Hour	Work/Rest*	Water Per Hour
1	78-81.9	No limit	½ qt	No limit	¾ qt	40/20 min	1 qt
2	82-84.9	No limit	¾ qt	No limit	1 qt	30/30 min	1 qt
3	85-87.9	No limit	1 qt	40/20 min	1 qt	30/30 min	1¼ qt
4	88-89.9	No limit	1 qt	30/30 min	1¼ qt	20/40 min	1¼ qt
5	>90	No limit	1¼ qt	30/30 min	1¼ qt	15/45 min	1¼ qt

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

**Note 1:** MOPP gear or body armor adds 10°F to WBGT Index.

**Note 2:** Hourly fluid intake should not exceed 1½ quarts. Daily fluid intake should not exceed 10 quarts.

Easy Work	Moderate Work	Hard Work
<ul style="list-style-type: none"> <li>● Weapon maintenance</li> <li>● Walking hard surface at 2.5 mph, &lt;30-pound load</li> <li>● Manual of arms</li> <li>● Marksmanship training</li> <li>● Drill and ceremony</li> </ul>	<ul style="list-style-type: none"> <li>● Walking loose sand at 2.5 mph, no load</li> <li>● Walking hard surface at 3.5 mph, &lt;40-pound load</li> <li>● Calisthenics</li> <li>● Patrolling</li> <li>● Individual movement technique; i.e., low crawl, high crawl.</li> </ul>	<ul style="list-style-type: none"> <li>● Walking hard surface at 3.5 mph, &gt;40-pound load</li> <li>● Walking loose sand at 2.5 mph with load</li> </ul>
<p><b>Note:</b> Soldiers who are overweight, dieting, or past heat casualties are more prone to heat injuries. As a result, their activities must be closely monitored.</p>		

failure of the body's cooling mechanism. Symptoms of heat stroke are mental confusion, disorientation or coma, lack of sweating, throbbing headache, flushed dry skin, nausea, and elevated body temperature. Lack of sweating in the heat is a symptom of imminent heat stroke.

✚ **First-aid: THIS IS A MEDICAL EMERGENCY – SEEK IMMEDIATE MEDICAL ATTENTION.** Move the victim to shade and cool with ice packs. If packs are not available, soak or douse victim with cool water. Fan body and elevate feet. Do not immerse in ice water. Do not try to give water to an unconscious victim. Ensure cooling process is continued during transport to medical facility.

### Control measures

The following guidelines will help prevent heat injuries:

■ **Acclimatization** is essential in the prevention of heat injury. Two weeks should be allowed for an individual to acclimatize. However, the amount of time needed depends on the individual's physical condition. Acclimatization requires more than exposure to heat. A person must work through progressively more difficult physical tasks to reach it. Acclimatization is not permanent. Once out of the hot environment, acclimatization will disappear in a week or two. A short illness, time spent in the hospital, on leave, or even working in an air-conditioned office for 2 weeks can undo all the effort put forth getting ready for the heat. If time for acclimatization cannot be provided, supervision and the buddy system become even more important. Don't forget that leaders also need a buddy, because leaders frequently try to tough-it-out to remain in the action.

■ **Fluid intake is essential.** Soldiers should drink adequate fluids (see chart on previous page) during the 24 hours prior to a training exercise. During training, fluid intake should be at regular planned intervals to replace the water and salt lost through sweating.

■ **Physical condition** of soldiers has a significant bearing on their reaction to heat stress. Infections, fever, recent illness or injury, overweight,

dehydration, older age, fatigue, drugs which inhibit sweating such as antihistamines and cold medicines, alcohol, and previous heat injuries are conditions which may increase the risk of heat stress and cause heat injury. These factors should be considered when assessing the hazards of hot weather.

■ **Work schedules** need to be tailored to fit the climate and the situation. Physical exertion increases the amount of heat produced by the body. Heavy work and activities that require lots of physical exertion (marches/calisthenics) should be scheduled for early morning or late evening. Alternating work and rest periods helps. Avoid working in the direct sun, whenever possible.

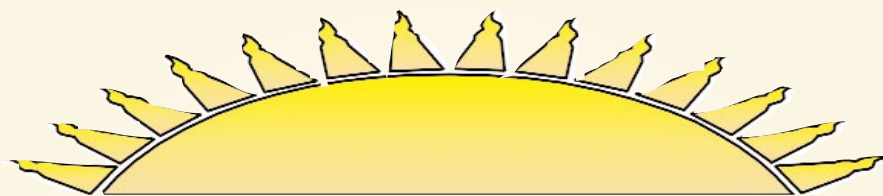
■ **Clothing can offer protection**, especially in the direct sun. It prevents radiant heat of the sun from being absorbed by the body. Loose-fitting clothing allows circulation of air and enhances the cooling evaporation of sweat. High temperatures and bloused trousers or tight clothing are sure ways to increase body heat.

■ **Wet bulb globe temperature (WBGT).** The WBGT index is the best means of evaluating environmental heat. Most installations have a preventative medicine or environmental medicine section to advise on the WBGT. If there isn't a local source or if in the field, obtain a portable WBGT kit, NSNs 6665-00-159-2218 or 6665-01-103-8547.

Remember, be alert to early signs of dehydration and heat illness. They forewarn of more severe casualties to come without intervention. Successful prevention of heat casualties is more important to the unit than their treatment. FM 21-10-1, FM 21-11, and TB Med 507 are the appropriate guides.

**The Army must operate in all types of environment. Just as machines can break down due to excessive heat, so can people. Be smart and don't let it happen to you.**

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## **Ten Commandments of Preventing Heat Injury**

1. Provide adequate water and ensure water breaks are taken every 15 to 20 minutes. Do not exceed 1½ quarts per hour. Thirst is not an adequate indicator of dehydration. Alcohol, coffee, soft drinks, and sports drinks are not good substitutes for water. Do not use salt tablets!
2. Ensure soldiers gradually adjust to working in the heat. Acclimatization is essential in preventing heat injuries.
3. Schedule work/rest periods. Schedule heavy work for the cooler part of the day (morning or late afternoon). The body generates more heat when heavy work is being performed.
4. Avoid overexertion. Use mechanical aids whenever possible. Assign tasks between several soldiers to reduce the stress on individuals.
5. Use shaded areas: trees, buildings, tents to reduce radiant heating. The temperature in the sun and under the canopy of a tree can vary from 8° to 20°F.
6. Encourage use of sun screens to protect exposed skin.
7. Wear loose-fitting, light-weight, light-colored clothing. Do not layer clothing; more clothing increases the risk of heat injury. Consider protective equipment—such as MOPP gear—when planning and scheduling activities.
8. Monitor WBGT so the heat-stress index can be evaluated. Environmental conditions, such as temperatures above 70°F (80°F at night), direct sunlight, humidity, and exposure to any toxic agents add to heat stress. The wind reduces the risk of heat stress by increasing the evaporation of sweat.
9. Train soldiers to recognize and treat heat injuries and encourage them to monitor each other for signs of heat stress.
10. Conduct safety meetings to emphasize special heat spell procedures. Be prepared to provide medical assistance.

**NOTE TO LEADERS:** Reduce and laminate this heat prevention plan and keep for easy reference.

# Boat smart from the start

**B**oats, boats, and more boats! Bass boats, speed boats, sail boats, canoes, kayaks, and jet skis--all have become an increasingly popular recreation activity. Soldiers continue to be hurt and killed in accidents caused by collisions, falling overboard, capsizing, swamping, and grounding.

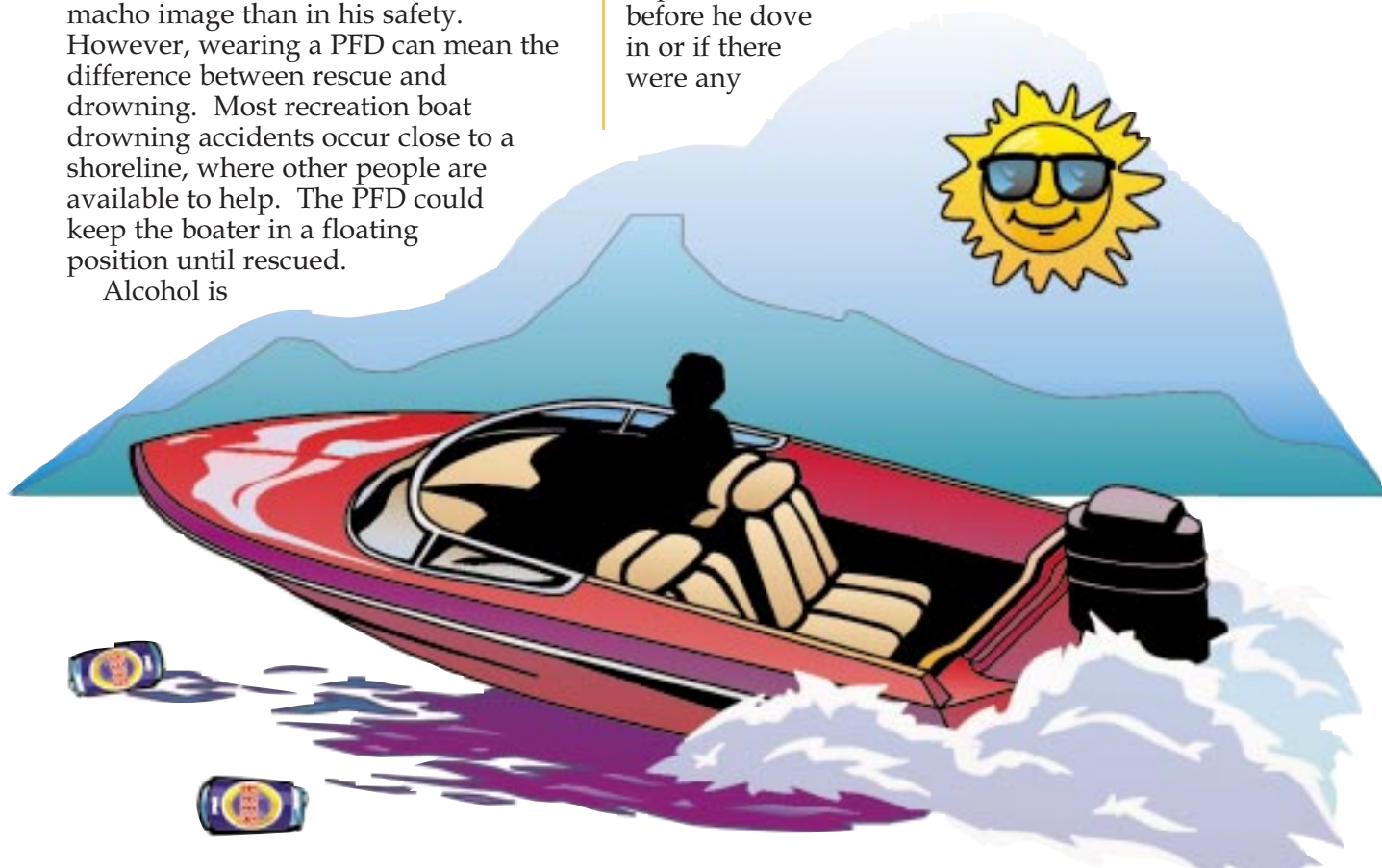
## Boating Injuries/Casualties

Operating a boat is more complicated than driving a car; therefore, the potential for hazards increase. Victims of most boating accidents drown because they found themselves in the water unprepared. Once in the water, a personal flotation device (PFD) is the boater's first and best line of defense against drowning. Many PFDs tend to be bulky and hot and are scorned by the boater who is more interested in his macho image than in his safety. However, wearing a PFD can mean the difference between rescue and drowning. Most recreation boat drowning accidents occur close to a shoreline, where other people are available to help. The PFD could keep the boater in a floating position until rescued.

Alcohol is

prominent in recreational boating accidents. Operating a boat while intoxicated is illegal and dangerous. Most states define impairment at .10% BAC. However, even lower levels of blood alcohol may affect a person's balance, vision, or judgment. This can be especially dangerous when on the water. Alcohol also tends to encourage risk-taking behavior and dulls the recognition of foolish behavior. Mixing alcohol, boats, and water is a lethal cocktail. The following is a good example:

■ Three soldiers were fishing in a small boat on a placid lake. After consuming several beers, two of them stepped into the approximately 3-foot deep water. Impulsively, the other soldier dove in head first, breaking his neck. This soldier did not know the depth of the water before he dove in or if there were any





submerged hidden objects. Alcohol affected this soldier's vision and judgment.

Most boating fatalities are preventable if the persons involved would simply stop and think about the possible deadly consequences of their actions.

Due to their small size and limited stability, rowboats and canoes can easily capsize. The most common causes are overloading and sudden movement. Keep weight low and shift bodyweight slowly and carefully. If your canoe capsizes, **stay with the canoe** until help arrives.

No one likes to contemplate falling overboard. None of us believe it can happen to us. The soldier in the following accident must have thought it couldn't happen to him either, because he elected not to wear a PFD.

■ A soldier was fishing in a small boat with three friends. An unexpected wave filled the boat with water. Another wave capsized it, spilling all four soldiers into the water. Three of the soldiers were wearing PFDs and survived. One was not, he drowned.

Most boaters think that a PFD stowed under the seat or "close at hand" is all that is required in an emergency. If something happens, as previously illustrated, soldiers think they will be able to put the device on in the water and save themselves. Doing so is not as easy as it sounds.

Soldiers who operate boats have a responsibility to themselves, their passengers, and other boaters to do so safely. Safe fun, not foolish and dangerous thrills, is the most important thing.

Of course, soldiers don't go out with the intention of having an accident. Accidents occur when victims are not familiar with the hazards and controls or when they are ignored. The risk-management process helps one to identify hazards and take steps to eliminate risk. This process is used in military operations, but can also be applied to recreational water-related activities as well.

### There are five steps to the risk-management process.

**1. Identify the hazards.** Hazards are dangerous conditions that could be encountered while

performing a task or mission. For example, what are the hazards in taking a boat out? Hazards could include: cold water, strong currents, high wind and waves, and unseen debris in the water. Reviewing other facts such as boat capabilities, operator and passenger skills, and condition of equipment can identify other hazards.

**2. Assess the hazards.** Each identified hazard must be assessed to determine the probability of its causing a problem and the severity of the consequences should such a problem occur. For

example: Calm, warm water, a sturdy boat and seasoned crew indicate

minimal risk with few controls needed. However, a strong current, cold water and high waves, coupled with a leaky boat and inexperienced boaters, contain much higher risk. Such conditions

increase the likelihood and

severity of an adverse outcome, resulting in losing directional control, getting lost, colliding, swamping, capsizing, hypothermia, or drowning. The hazard with the highest risk determines the risk for the operation: Extremely high, high, medium, or low.

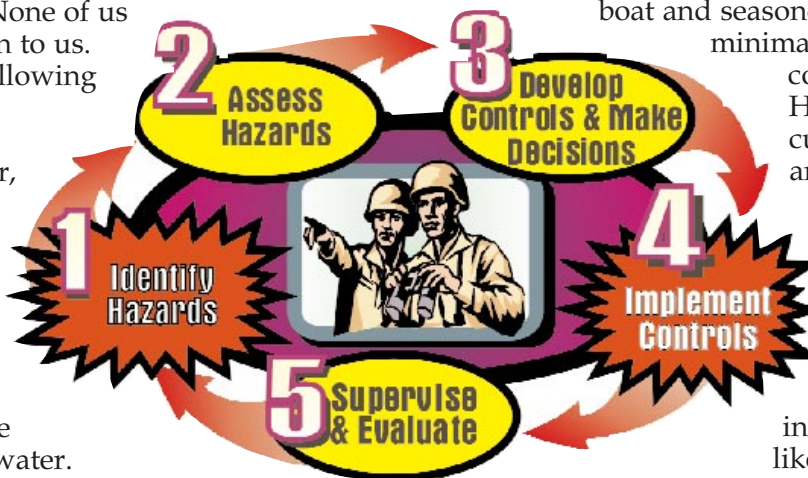
**3. Develop controls and make a decision.**

Controls for low risk may be as simple as conducting a short safety briefing and ensuring everyone is wearing PFDs. More strenuous controls would need to be enforced for high-risk operations. The boat operator would provide each person with guidance on what hazards to look for and instructions on what to do to deal with it.

If the operator's instructions are on target and are effectively implemented, then the risk should be acceptably low enough to have a safe boating experience.

**4. Implement controls.** The controls established are put into effect by the boat operator.

**5. Supervise.** Supervision goes beyond ensuring that people do what is expected of them. It includes following up during and after an action to ensure that all went according to plan, reevaluating the plan or making adjustments as required to accommodate unforeseen hazards, and incorporating lessons learned for future use. ♦





# Swimming

**S**ummer months mean hot days and longer daylight hours. That means the majority of Army soldiers and their families will enjoy some manner of recreation involving water: swimming, surfing, fishing, water skiing, scuba diving, snorkeling, and basic boating are long-time favorites. Jet skis and wind surfing are increasing in popularity. Depending on where you live and work, or where you vacation, the season for these activities is here or fast approaching.

All recreational water activities involve potential hazards. One particularly worth noting is alcohol consumption. Although alcohol is commonly a part of summer activities, it tends to impair judgment, leading to overconfidence and taking foolish chances—often with disastrous results. Here are three examples:

■ A soldier was by himself and had an approximate BAC of .17% when he dove into the deep end of a swimming pool. He suffered severe fatal head injuries. **WARNING: Swimming alone is foolish; swimming alone AND drinking alcoholic beverages is deadly!**

■ After consuming unknown quantities of beer, wine, and whisky, a soldier attempted to swim across an off-limits sand pit. He disappeared about halfway across. His body was recovered the next day.

■ Two soldiers waded into an off-limits river, known to have strong undercurrents. One soldier had consumed an unknown amount of alcohol and started swimming to the far shore. About halfway across the river, his head suddenly disappeared below the surface and never reappeared. **CAUTION: Swim only in authorized areas.**

Hypothermia, which contributes to as many as half of all water fatalities, usually kills victims by inhibiting their ability to swim or stay afloat. Hypothermia occurs when the body loses heat faster than it can produce. Body heat is lost 25 times faster in cold water than in cold air. It can occur in any body of water that is less than 70°F, which means larger bodies of water pose a risk even in warm weather months.

■ During a picnic volleyball game, a soldier jumped into a cold, choppy lake to recover the ball. He apparently cramped and drowned approximately 40 meters from shore. The soldier overestimated his ability to swim in prevalent conditions and failed to anticipate the effects of the cold water. ♦

**POC: George K. Greenauer, Safety Manager, Ground Systems and Accident Investigations Division, U.S. Army Safety Center, DSN 558-3261 (334-255-3261), [greenaug@safety-emh1.army.mil](mailto:greenaug@safety-emh1.army.mil)**

## Safe swimming

Swimming is an inexpensive and fun activity. Soldiers can enjoy swimming if they first identify and control the hazards:

### Probable hazards

- Unknown waters
- Cold water temperature
- Unknown water depth/obstructions
- Rocky/shelled bottom
- Inexperienced swimmer
- Lifeguard not present
- Alcohol consumption
- Marine life, critters
- Undertow, currents, waves

### Possible controls

- Authorized swim area
- Limit exposure
- Familiarize
- Surf shoes
- Shallow water/PFD
- Buddy system
- Omit, limit
- Alertness
- Awareness



# ATTABOY!

## Soldiers receive the Army Safety Guardian Award

**S**oldiers from two different Army posts recently received the Army Safety Guardian Award for their heroic actions in saving lives.

■ **SSG Dennis L. Hatcher, U.S. Army School of Aviation Medicine (USASAM), Fort Rucker, Alabama.** On a fall evening in October 1997, SSG Hatcher witnessed a tragic head-on collision between a privately owned vehicle (POV) and a motorcycle. Through decisive action, SSG Hatcher was able to utilize his medical knowledge to provide on-site emergency medical treatment to circumvent a potentially life-threatening injury.

While traveling behind the motorcycle, SSG Hatcher saw the accident beginning to unfold, but could do nothing to prevent it from happening. The POV did not see the motorcycle on the roadway and pulled out from a side road, striking the motorcycle head on. The driver of the motorcycle did not have a chance to swerve, slow down, or stop and ended up flying over the oncoming vehicle with such force that the helmet he was wearing was ripped from his head. After flying through the air for 35 feet, he landed abruptly on his unprotected head. SSG Hatcher immediately stopped his vehicle and rendered first aid. After quickly assessing the victim's medical condition, SSG Hatcher ran to his car and retrieved his first-aid bag and called the Department of Public Safety with his cellular phone requesting immediate dispatch of a life support unit. After returning to the victim, SSG Hatcher applied an abdominal dressing to the nearest pressure point to slow the flow of blood. While maintaining the dressing in place, he was able to simultaneously immobilize the victim's cervical spine to ensure that further damage was not done. After the paramedic team arrived at the scene, SSG Hatcher continued to assist in the preparation for transport. After following the ambulance to a local hospital, he

notified the victim's family of the situation and provided a sounding board for their questions.

Due to SSG Hatcher's dedication, technical competence, and quick reaction time, a life-threatening situation was averted with the victim making a full recovery.

■ **SGT Kenneth Robinson, Troop C, 1st Squadron (Air), 17th Cavalry Regiment, Fort Bragg, North Carolina.** In mid-May 1997, SGT

Robinson risked personal injury to himself while employing split-second decision-making to prevent potential injury to other soldiers and major damage to valuable Army equipment.

During a rapid deployment tactical exercise, SGT

Robinson served as team leader for the loading and off-loading of two OH-58D(I) aircraft being transported on a USAF C-130 aircraft. His team performed the airland operation flawlessly and the two aircraft were rolled out behind the C-130 at the destination. The first OH-58D(I) was configured for flight without incident. During the "build up" of the second OH-58D(I), the mast mounted sight (MMS) was raised from its platform on the right

side of the aircraft to the top of the aircraft with a hoist. At approximately 10 feet above the ground, the cable in the hoist separated and broke. Another soldier, who was on top of the aircraft, was unable to control the 164-pound MMS.

Instinctively and with total disregard for his own safety, SGT Robinson strategically positioned his body between the MMS and the aircraft, catching the rocket launcher only inches from the aircraft. The elapsed time from cable failure until SGT Robinson caught the MMS was less than 3 seconds. Through quick action, SGT Robinson prevented what could have been a catastrophic incident, potentially causing injuries, destroying the valuable MMS, the AVR-2 on the MMS, and structural damage to the aircraft. ♦



# Safety of use messages

The following is a list of all safety of use messages (SOUMs), ground precautionary messages (GPMs), and maintenance advisory messages (MAMs) issued by Army Tank-Automotive Command (TACOM) and Communications and Electronics Command (CECOM) from 1 Oct 97 through 31 Dec 97.

## TACOM GPMs and MAMs

- AMSTA-IM-O, 161817Z Dec 97, subject: SOUM, TACOM-WRN Control No. 98-01, Operational, affecting aircraft refueling nozzles manufactured by Carter Ground Fueling Company, (D-1) Pressure Nozzle, NSN 4930-01-440-1085, NSN 4930-01-297-3777, NSN 4930-01-369-6230, NSN 4930-01-369-9821, or P/N 64349CDF4HX (Cage ODT23). Summary: This message provides the proper procedures for using D-1 refueling nozzles so that an over-pressure situation and possible fuel spill does not occur. Solar heating causes thermal expansion of fuel trapped inside of the nozzles, and thus increases the internal pressure beyond the allowable limit. Hose valves must remain open when D-1 nozzles are attached to prevent fuel from being trapped in the nozzle. POCs: LTC Genaro J. Dellarocco, DSN 786-4200 (810-574-4200), dellarog@cc.tacom.army.mil; Mr. Robert A. Noel, DSN 786-4214 (810-574-4214), noelro@cc.tacom.army.mil; and Mr. Tim Lee, DSN 786-4147 (810-574-4147), leeti@cc.tacom.army.mil
- AMSTA-IM-O, 051958Z Nov 97, subject: SOUM, TACOM-WRN Control No. 97-08, Grove Model AP308T Crane, Warehouse 10K, NSN 3950-01-412-5345, LIN F39104. Summary: This message immediately deadlines all of the subject warehouse cranes. TACOM has been notified that some of the brake wheel cylinders are leaking on the grove model AP308T, 10K warehouse cranes. Units should continue to use the older 10K warehouse cranes until the cause of the leaking wheel cylinders has been isolated and resolved. POCs: Mr. James E. Jump, DSN 786-8901 (810-574-8901), jumpj@cc.tacom.army.mil and Ms. Deborah Raubinger, DSN 786-5001, (810-574-5001), raubingd@cc.tacom.army.mil
- AMSTA-IM-O, 151453Z Dec 97, subject: MAM, TACOM-WRN Control No. MAM-98-002, M1A2 Slave Start Procedures, NSN 2350-01-328-5964, LIN T13305. Summary: This message reiterates the importance of following the correct procedures for slave starting an M1A2

tank. The procedures are not the same for the M1A1 and M1A2. If the correct procedures are not followed, the batteries may not charge properly and damage may occur to the power management systems of both tanks. POCs: Ms. Berniece Dubay, DSN 786-8215 (810-574-8215), dubayb@cc.tacom.army.mil and Mr. Ray Verdaglio, DSN 786-8220 (810-574-8220), verdaglr@cc.tacom.army.mil

- AMSTA-IM-O, 031833Z Dec 97, subject: MAM, TACOM-WRN Control No. MAM-98-001, U.S. M1A2 and FMS M1A2 tanks fire control systems test, NSN 2350-01-328-5961, LIN T13305. Summary: A gun turret drive (GTD) fault caution message may be erroneously displayed on the GCDP in some M1A2 tanks loaded with software versions U.S. 2.5A (and above), S2.2 (and above), or K2.4 when performing the fire control system test. This message provides the procedures for determining if the displayed fault is valid. POCs: Ms. Berniece Dubay, DSN 786-8215 (810-574-8215), dubayb@cc.tacom.army.mil Mr. Kevin Houser, DSN 786-5244 (810-574-5244), houserk@cc.tacom.army.mil
- AMSTA-IM-O, 191158Z Nov 97, subject: MAM, TACOM-WRN Control No. MAM-97-014, U.S. M1A2 hull electronics unit (HEU), NSN 2350-01-328-5964, LIN T13305. Summary: A HEU critical fault message may be displayed on the DID and CID when large fuel level changes occur in the tank. If this problem occurs, the TEU will take over the HEU functions and the tank will continue to operate in TEU only mode. This message provides the procedures for trouble-shooting and clearing the critical fault message and restoring the tank to operate with both the HEU and TEU. POCs: Ms. Berniece Dubay, DSN 786-8215 (810-574-8215), dubayb@cc.tacom.army.mil and Mr. Ray Verdaglio, DSN 786-8220 (810-574-8220), verdaglr@cc.tacom.army.mil
- AMSTA-IM-O, 122023Z Nov 97, subject: MAM, TACOM-WRN Control No. MAM-97-013, M1076 Palletized Load System (PLS) Trailer, NSN 2330-01-303-5197, LIN T93761. Summary:



TACOM received a report of a PLS trailer drawbar that broke off during normal operation. The cause of the break was attributed to improper operation and an improper repair to the drawbar sliding tube/mounting plate. This message directs users to inspect the drawbar for obvious damage, missing parts, or cracks. If the drawbar has damage, missing parts or cracks, the drawbar must be properly repaired or replaced. POCs: Mr. Patrick Baucom, DSN 786-5169 (810-574-5169), baucomp@cc.tacom.army.mil and Mr. Jeffery Hamel, DSN 786-5220 (810-574-5220), hamelj@cc.tacom.army.mil

- AMSTA-IM-O, 271126Z Oct 97, subject: MAM, TACOM-WRN Control No. MAM-97-012, M1A1 Abrams, NSN 2350-01-087-1095, LIN T13168, and M1A2, NSN 2350-01-328-5964, LIN T13305. Summary: A recent field survey has shown that in a number of instances, the NBC tube assembly located in the crew compartment NBC system, which runs from the NBC filter support assembly to the inside hull wall, is cracked and leaking air. This message provides inspection criteria and replacement procedures for this hose. POCs: Mr. Brad Voss, DSN 786-7389 (810-574-7389), vossb@cc.tacom.army.mil and Ms. Berniece Dubay, DSN 786-8215 (810-574-8215), dubayb@cc.tacom.army.mil

- AMSTA-IM-O, 081516Z Oct 97, subject: MAM, TACOM-WRN Control No. MAM-97-011, Turret Remote Switching Module (TRSM), NSN 6130-01-448-1840. P/N 12932230-2, used on the M1A2 Abrams, NSN 2350-01-328-5964, LIN T13305. Summary: Currently the DSESTS does not recognize the new TRSM part number

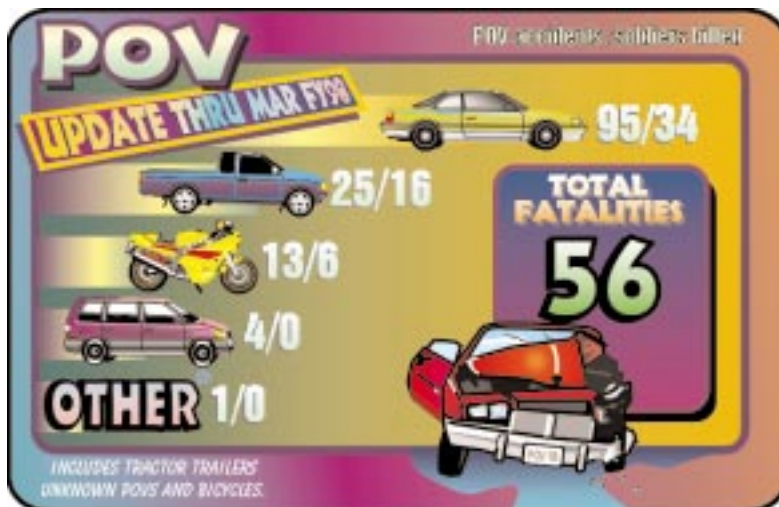
12932230-2. To completely test this TRSM with the current DSESTS, the old part number 12932230 has to be entered in prior to testing. This message provides an interim testing procedure for the TRSM to be used until the DSESTS update is issued to the field in March 1998. POCs: Ms. Berniece Dubay, DSN 786-8215 (810-574-8215), dubayb@cc.tacom.army.mil and Mr. Ray Verdaglio, DSN 786-8220 (810-574-8220), verdaglr@cc.tacom.army.mil

### CECOM SOUMs and GPMs

- AMSEL-SF-SEP, subject: GPM 97-015, ST-138/PRC25 Electrical Equipment Harness, NSN 5820-00-892-8094. Remarks: Do not use the subject harness with the AN/PRC-199 radio. The approved carrying case for the AN/PRC-119 is NSN 5820-01-322-3477. Additional user actions are provided. Status: Open. POC: Mr. David Kiernan, DSN 992-0084, ext. 6447.

- AMSEL-SF-FB, subject: GPM 97-016, Follow up to GPM-97-014, Generator Set, Diesel, 2 KW, 120V AC, manufactured by Mechtron, MEP-531A, LIN Z31804, NSN 6115-21-912-0393. Remarks: Replaced present duplex convenience receptacle with ground fault receptacle to be provided by PM Mobile Electric Power in the form of upgrade kits. For assistance, contact the message technical POC. Status: Closed. POC: Mr. Gaines Ho, DSN 654-2093.

- AMSEL-SF-SEP, subject: GPM-97-017, BA-5590/U, Lithium Sulfur Dioxide Batteries manufactured by SAFT. Remarks: Deadlines BA-5590/U batteries manufactured by SAFT America Inc. Status: Open. POC: Mr. Philip Klimek, DSN 992-9723, ext. 6437. ♦



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