The U.S. Army Combat Readiness Center has developed multiple tools to provide leaders information on risk mitigation, all available at https://safety.army.mil, including the following:

- **Army Readiness Assessment Program** — a web-based tool that provides battalion or equivalent commanders with data on their formations’ readiness posture by sampling unit safety climate and culture in five key areas: process auditing, reward systems, quality control, risk management, and command and control.

- **Army Risk Management Information System** — the central repository for all Army mishap data (Class A-D ground, on and off duty; Class A-E aviation). RMIS is designed to give leaders, safety officers and other personnel access to both current and archived mishap reports, with a goal of preventing similar incidents within their formations. Among other functionalities, users may search RMIS for specific mishaps by case number; conduct searches for a given timeframe or accident class; and obtain risk and hazard reports broken down by age, grade, equipment and additional variables. All data retrieved from RMIS is classified For Official Use Only and limited in use to accident prevention.

- **USACRC Lessons Learned** — one-page mishap investigation summaries produced for accident prevention purposes. Summaries contain information protected by DODI 6055.07 under safety privilege and are available only to CAC holders within the .mil network.

- **Ground Risk Assessment Tool** — a mission planning tool developed to augment the military decision-making process. Consisting of five integral parts, it assists users in identifying potential hazards and controls for specified ground missions or activities, both on and off duty.

- **Off-Duty Safety Awareness Presentation** — a highly informative safety presentation containing statistics, contributing factors and other relevant information regarding off-duty mishaps.

Developed for use at battalion level and below, the presentation comes complete with embedded videos and speaker notes that may be used as is or modified to reflect unit-specific mishap trends.

- **Preliminary Loss Reports** — short synopses of recent Army mishaps resulting in Soldier or civilian employee losses that alert commanders, leaders and safety professionals to circumstances affecting readiness. PLRs provide actionable knowledge and real-time information regarding accidental fatalities, both of which are critical in prevention through risk management.

- **Safety Campaigns** — a monthly focus on seasonal and non-seasonal risk management products and tools. Each monthly topic includes supporting videos, graphics and posters, articles and external links for additional resources.

- **Risk Management Magazine** — the official safety magazine of the U.S. Army, published online quarterly. In addition to the online version, the USACRC releases a weekly RM newsletter highlighting a variety of safety articles, posters and videos, seasonal safety campaigns and USACRC tools and programs.

- **Flightfax** — an aviation safety publication published online monthly. It provides leaders a snapshot of Army aviation hazards through analyses of mishaps within the last 30 to 60 days, near-term mishaps, aviation safety issues and historical context via a “blast from the past” feature.
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Mission Statement:
To assist commanders with loss prevention as we deploy our Soldiers and Civilians to the most dangerous places on earth.

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Team, with the beginning of the new fiscal year comes our annual examination of mishap data for the year before. I’m happy to report that, despite a tough start to FY18, the Army experienced a seven percent decline in accidental fatalities from FY17. In real terms, that means eight more Soldiers are in their formations today than this time a year ago. What an awesome achievement for our leaders and Soldiers!

Mishap fatalities as a whole were down nearly across the board, with the exception of our Army Vehicle and Personnel Injury-Other categories. Most of the rise in PIO fatalities occurred off duty, and the USACRC is currently conducting analyses to determine if there are any trends there we should be addressing. These mishaps are often disparate, though, and cover a wide range of incidents, from accidental falls to drownings to many different scenarios between. We’ll cover this topic in greater depth with our annual assessment, which should be released around the end of December.

Army vehicles are a different matter. My team is currently putting together a brief for ground commanders, tentatively titled “Evil Eight,” that addresses the most commonly cited causal factors in Army vehicle mishaps investigated either by the USACRC or at the unit level. What we know is that in about 80 percent of those mishaps, either risk mitigation or mission planning — or sometimes both — were severely lacking. Often, vehicle crews and unit leaders didn’t conduct pre-combat checks or inspections, convoy briefs, or risk assessments. Excessive speed, lack of restraint system use, improper licensing and use of unauthorized sleeping areas were all noted in fatal vehicle mishaps this past year. The updated revision of Army
Regulation 600-55, The Army Driver and Operator Standardization Program (Selection, Testing, and Licensing) should remedy many of the issues we’ve seen with driver training programs and licensing, thereby allowing leaders at the unit level to address indiscipline issues during day-to-day operations.

We continue to see the same indiscipline factors in off-duty vehicle mishaps, which unfortunately is the time when leaders have the least control over their Soldiers’ risk decisions. While private motor vehicle mishaps were down as a whole during FY18, they’re still the leading cause of accidental death across the Army. Most involve speed, alcohol, fatigue and/or failure to wear seat belts. A majority occur after 1700 and on the weekend. Those data points might not mean much by themselves, but together they paint a picture for our first-line leaders. Even though the Travel Risk Planning System is no longer an Army requirement, it is still a very valuable tool that allows supervisors to engage their Soldiers on otherwise uncomfortable topics. I encourage all leaders to continue using TRiPS and good, old-fashioned counseling to start these conversations and get to know their Soldiers, and their individual risk factors, better.

I look forward to seeing what FY19 has to bring and how we’ll continue toward becoming the safest Army we can be. If I or the USACRC can help you in any way, please let me know. We’re all one team working toward the same goal, and I’m happy to assist. I wish you all a fantastic fall and much joy in the upcoming holiday season.

Readiness Through Safety

Timothy J. Daugherty
Brigadier General, U.S. Army
Commanding
Rail Loading Safety

Wear helmet, gloves, reflective vest & eye protection

Do Not Run, Range Walk
Use three points of contact mounting or dismounting all equipment and cars
Do Not Stand on rail car with moving vehicle
Do Not Walk backwards while ground guiding
Do Not Crawl under or go between rail cars
Rail remains a vital part of the deployment process. During recent deployment operations, the Army relied on contractors to do the majority of the loading. But with the focus on large-scale combat operations, a unit’s Soldiers will be responsible for rail loading unit equipment.

Railhead operations are hazardous and labor intensive, so a detailed, deliberate risk assessment and training are required to achieve safe, successful results. Leaders and Soldiers at all levels share an equal responsibility to ensure safe operations. To conduct a successful, safe railhead operation, we need to get back to the basics. Rail safety policies, practices and procedures must be followed. Unfortunately, it seems on occasion that safety takes a back seat to getting the mission accomplished and the equipment loaded (or downloaded) as quickly as possible.

As the rail operations safety professionals for the Army, the Transportation Corps Rail Safety Office is tasked with conducting rail safety surveys during railhead operations at installations. During these surveys, we continually witness serious safety infractions and high-risk behaviors. Soldiers working the railhead have been observed putting themselves in unsafe situations, including:

- Standing between moving equipment while ground guiding
• Occupying the same railcar as the vehicle being loaded
• Jumping off railcars and jumping from railcar to railcar
• Sitting or lying under railcars
• Climbing on the coupling gear between railcars
• Walking backward while ground guiding
• Not using the required personal protective equipment

These and other unsafe practices have resulted in an increased number of rail operations mishaps. Since 2010, the Transportation Corps Rail Safety Office has tracked 98 reported rail mishaps. Of those, 16 were directly related to unsafe actions by personnel during railhead operations — the second highest reported mishap. It’s a safe bet that many more mishaps go unreported.

To help make railhead operations safer, the Rail Safety Office continues to work diligently on tools to aid commanders. Army Regulation 385-10, The Army Safety Program, states, “Commanders will implement a railhead certification program for units assigned to rail loading operations, with assistance of local movement control or rail personnel." What is the certification program? The Transportation Corps Regimental Safety Office created an interactive multimedia instruction for railhead safety. This course will assist in meeting the intent of AR 385-10.

The instruction is currently located on the Army Blackboard site at https://scoe.ellc.learn.army.mil. The online course provides guidance on the importance of safety during railhead operations. The course contains six modules, including an introduction, personal protective equipment, safety on and around railcars, railhead site inspection, spanner safety and ground guide procedures. Upon successful completion of the training and examination, the Transportation Corps Safety Office issues personnel a certificate.

Training is one of the “basics” to which this article refers. Various installations offer additional training related to rail loading. Fort Riley offers a unit load team train-the-trainer course that can be found on the Army Training Requirements and Resource System website. This two-day course is designed to provide the unit load team NCOICs/OICs train-the-trainer instruction on proper rail loading procedures.
for continental U.S. rail operations. The course teaches an overview of railhead operations and the basics of tying down vehicles and equipment on the railcars.

Additionally, the Marine Corps Logistics Base Barstow Rail Operations Center offers a more in-depth, 14-day Railhead Operations Group Training Course. As a joint services school, the focus of the course is on the needs, requirements and standards of all services. For more information on the RHOG-TC, the point of contact is Chad Hildebrandt, (760) 577-7781, DSN 282-7781, or email chad.hildebrandt@usmc.mil.

Completing a comprehensive risk assessment is another basic that must be accomplished. According to AR 385-10, “Commanders and other leaders who are planning or conducting these operations will use the information in Department of the Army Pamphlet (DA PAM) 385-30 (Risk Management) to help them assess hazards and risks.” The Installation Transportation Office has the expertise and should review DD Form 2977, Deliberate Risk Assessment Worksheet, to ensure all potential hazards are identified and the proper controls are implemented. The completed and signed risk assessment must be briefed to everyone working on the railhead.

Unit leadership is by far the most important basic aspect when conducting railhead operations. The Railhead Operations section of the Installation Transportation Office depends on unit leaders to assist in ensuring the operation is being conducted as safely and efficiently as possible. Unit leadership must make an on-the-spot correction when an unsafe act has been identified. A best practice is to have a safety officer or safety NCO assigned to each loading spur to oversee the Soldiers working on their assigned spur.

Equipment deployment via rail transport is a proven, effective means of transporting the unit’s equipment from “fort to port” or to major training sites. But, as with all operations, there are inherent risks and hazards that come with movement by rail. The uploading and downloading of equipment onto railcars leaves little room for error. Before conducting railhead operations, ensure everyone involved receives the required training, a risk assessment is conducted and unit leadership knows and understands their role in the operation. Getting back to the basics will help ensure a successful and safe railhead operation.

For more information on rail safety, please contact the Transportation Corps Safety Office at (804) 765-7574 / 7467, DSN 312-7574 / 7467, or email usarmy.lee.tradoc.mbx.rail-safety@mail.mil.
For the past 20 years, the Army has attempted to integrate risk management into all areas of Soldiers’ lives both on and off duty. Publications, safety briefs and numerous products and tools are dedicated to risk management in hopes of preserving combat power and both human and materiel resources. Despite these efforts, some leaders and Soldiers still fail to apply the five-step risk management process — identify the hazards, assess the hazards, develop controls and make risk decisions, implement controls, and supervise and evaluate — into every operation. This is evident in several fatal mishaps investigated by the U.S. Army Combat Readiness Center.

Land navigation

While attempting to complete a three-hour land navigation exercise during heat category 4 and 5 conditions, a Soldier lost his phone, watch and was running low on water. He had yet to find any of his intermediate points when he encountered two other Soldiers on the course. One of the Soldiers had already located three of his four intermediate points and offered to lead everyone to the rally point. The second Soldier accepted the offer, but the mishap Soldier wanted to finish the course unassisted. After leaving the two Soldiers to resume the exercise, the mishap Soldier suffered an exertional heat illness, became disoriented and lost consciousness. When he failed to return to the rally point, leaders conducted an extensive search using helicopters, specialized canine teams, trained personnel recovery units and more than 500 personnel. The Soldier’s body was found two days later, south of where he last spoke to the other two Soldiers. Where were the risk management failures?

- The cadre failed to evaluate the hazard associated with training in heat category 4 and 5 conditions and did not have the means to monitor the wet bulb temperature.
- A failure to evaluate the environmental hazards, followed by a failure to develop controls, led to Soldiers departing with a single 1-quart canteen. In addition, the implementation of control of water points did not mitigate the hazard associated with Soldiers running out of water. The Soldiers

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did not understand the placement of the water points, and the cadre did not place the water points at high-traffic areas on the course. The cadre also did not refer to Technical Bulletin Medical 507, Heat Stress Control and Heat Casualty Management, during the assessment of the hazards associated with the environmental conditions.

- At the instructional level, the Army failed to implement controls related to requiring the use of individual tracking devices on land navigation courses.
- Soldiers must assess the hazards of continuing training with no means of communication and an inadequate water supply. They must adhere to the heat illness prevention guidance provided to all Soldiers before conducting a land navigation exercise.
- Leaders must ensure Soldiers understand how to recognize and treat heat illnesses. TRADOC Regulation 350-29, Prevention of Heat and Cold Casualties, and TB MED 507 provide guidance on the use of iced sheets and treatment of potential heat illnesses.

Ground guiding

A specialist and two newly assigned wheeled vehicle mechanics, who recently graduated from advanced individual training, were tasked to move a disabled medium tactical vehicle from a maintenance bay with a tow bar. The crew spent the morning connecting the tow bar to a 10-ton dump truck and attempting to free the disabled vehicle’s brakes. They were unsuccessful, so they disconnected the tow bar, moved the dump truck and left for lunch. Afterward, the specialist went to a smoking area while the two mechanics resumed their efforts to move the MTV. One mechanic, who was untrained and unlicensed, backed the dump truck while the second mechanic attempted to align the tow bar. The driver lost sight of the second mechanic but did not stop the truck until he heard it strike the MTV. The second mechanic was trapped between the two vehicles and suffered fatal injuries.

What can the Army do to prevent similar mishaps from occurring in the future?
- Leaders must assess hazards with inexperienced mechanics and unlicensed drivers conducting maintenance tasks.
- Leaders must ensure team composition is appropriate for safe task completion.
- Cautions and warnings found in technical manuals constitute effective controls. In this mishap, leaders failed to supervise the implementation of those controls when they did not require inexperienced mechanics to have TMs on hand.
- Leaders failed to communicate the hazard and supervise controls related to ground guides and the hazard associated with Soldiers placing themselves between two vehicles or equipment, the requirement to remain visible to drivers at all times, and for drivers to stop if they lose sight of the ground guide.
“SOME LEADERS AND SOLDIERS STILL FAIL TO APPLY THE FIVE-STEP RISK MANAGEMENT PROCESS. . ."

Vehicle towing
While conducting like-vehicle towing, an M1151A1 HMMWV driver descended a hill on an interstate highway at an excessive speed. As the HMMWV approached a tractor-trailer ahead, the driver locked the brakes and lost control of the vehicle. The HMMWV left the roadway, continued down a severe downslope — shearing the tow bar from the towed M1151A1 — and overturned. The HMMWV driver was ejected from the vehicle and died at the scene, while the truck commander suffered minor injuries. Although the towed HMMWV did not overturn, it struck a stand of trees, causing damage to the vehicle.

What can the Army do to prevent similar mishaps from occurring in the future?
• When conducting towing operations, Soldiers must follow the guidance, which equates to steps three and four of the risk management process, in Training Circular 21-305-20, Manual for the Wheeled Vehicle Operator, Chapter 17, Vehicle Recovery.
• The technical manual must provide specific guidance regarding the maximum speed a Soldier should drive while conducting like-vehicle recovery. In addition, units should have a written standard operating procedure or deliberate risk management worksheet specific to the operation.
• Soldiers must always wear their seat belts when operating or riding in a vehicle. Truck commanders must verify Soldiers are wearing their seat belts properly.

Trailer hook-up
During a training rotation, the HEMTT fuel crews were directed to disconnect the M1076 trailers loaded with the M107 Modular Fuel System. When they finished, the crew did not place chock blocks behind a trailer, which was parked on a 7 degree downslope. After receiving simulated indirect fire from the opposing force, the unit decided to reposition. The distribution platoon sergeant directed a driver and assistant driver to connect the M1076 trailer to their HEMTT. While connecting the air hoses, the trailer’s spring brakes released, causing it to roll forward 4 feet into the rear of the HEMTT. The assistant driver was crushed between the trailer and HEMTT and died from her injuries.

What can the Army do to prevent similar mishaps from occurring in the future?
• Leaders must follow the cautions and warnings...
in the TM and ensure operators use chock blocks during hook-up operations to prevent inadvertent vehicle and equipment movement. Once again, TMs are a valuable source for hazards and the development of controls for Army equipment.

- Leaders must ensure Soldiers park equipment on level ground, rather than a slope, before emplacing chock blocks as required in the TM.
- Leaders must properly supervise preventive maintenance checks and services.
- Leaders must ensure they communicate deliberate risk management worksheet guidance to subordinate leaders who are responsible for the implementation of controls and supervision necessary to mitigate hazards.

Range operations
After firing more than 500 rounds of 5.56 mm ammunition within seven to eight minutes, a Soldier placed his M4A1 on the ground, oriented toward several other Soldiers. The heat generated from continuous automatic fire cooked off a round still loaded in the weapon, which struck a Soldier in the abdomen. The Soldier died from his injuries.

What can the Army do to prevent similar mishaps from occurring in the future?

- Leaders must prioritize the tasks of making weapons safe upon the cease-fire command.
- Leaders and Soldiers must ensure a loaded weapon is never placed on the ground, pointing at others.
- Leaders must enforce range safety standards by assigning line safeties, monitoring rates of fire and never deviating from the course of fire.
- Safe weapons handling must be incorporated in all training events with weapons, with particular attention being placed on muzzle awareness.

Conclusion
Risk management is more than just a check-the-block requirement; it’s a combat multiplier. Leaders must understand the importance in integrating risk management into the planning, preparing, executing and assessing of all operations. Failure to correct unsafe practices by enforcing basic standards, namely the five steps of the risk management process, was a common causal factor in each of the fatal mishaps discussed above. As a result, five Soldiers lost their lives, their families and friends lost loved ones, and their Army formations lost combat strength.
According to the Defense Health Agency Medical Surveillance Monthly Report from October 2017, the Army accounted for nearly 58 percent of all cold injuries diagnosed in active-duty service members during the 2016-17 cold season. Soldiers participating in military training or deployments most often encounter CWIs, which can include hypothermia, frostbite, non-freezing cold injuries (e.g., chilblains, trench/immersion foot) and injuries related to cold exposure. Conditions related to cold exposure include dehydration, carbon monoxide poisoning, sunburn, snow blindness, and slips and falls. In addition to the cold itself, factors such as duration of exposure, humidity, wind and altitude all contribute to CWIs.

Fortunately, CWIs are preventable. Soldiers need to understand the importance of taking cold-weather safety precautions and actively employing injury-prevention strategies with the help of healthcare providers and military leaders. The U.S. Army Public Health Center recommends service members remember the acronym COLD, which serves as

**Cold-Weather Injury Prevention**

Cold-weather injuries, or CWIs, affect hundreds of service members each year and have debilitating effects on the human body if they do not take preventive measures. In the Army, injuries resulting from exposure to cold and wet environments reduce force strength and have immediate impacts on Soldier readiness and mission success.

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an easy reminder for CWI prevention:

Keep it Clean
Avoid Overheating
Wear it Loose and in Layers
Keep it Dry

Soldiers can increase resilience against CWIs through the following prevention methods:

- **Wear proper clothing.**
  It is essential for Soldiers to keep clothing clean, dry and worn in loose layers. They can remove clothing layers as the ambient temperature or physical activity increases, which can reduce sweating and overheating. To keep feet warm and dry, individuals should wash and dry feet and put on dry socks at least twice a day.

- **Keep the body moving.**
  Soldiers must keep major muscle groups moving or at least keep hands and feet warm by moving fingers and toes if unable to walk or exercise. Frequent movement is necessary because it increases blood flow to muscles. Soldiers can warm fingers quickly by swinging their arms in a wide arc from an extended side position to a front position and hitting hands together until warmth is restored. Also consider moving your lips from side to side and up and down to increase blood circulation throughout the face to help prevent cold injury to facial tissue.

- **Be mindful of personal risk factors.**
  Military personnel between the ages of 17-25 suffer the most CWIs. Soldiers not acclimated to cold weather and unprepared to survive in winter conditions are likely to suffer from a CWI; however, anyone is susceptible. Female Soldiers should take extra precautions in cold-weather conditions because they sustain peripheral CWIs at a rate two times higher than males of comparable age and weight. Certain medical conditions such as hypothyroidism and Raynaud’s disease can increase cold intolerance. In addition, many medications change the way the body reacts to temperature in the environment, so Soldiers should ask their healthcare provider for information on whether they could be at increased risk for a CWI.

- **Stay hydrated.**
  Dehydration increases the chances of hypothermia and frostbite. As with exposure to heat, dehydration occurs easily in cold environments, causing decreased ability to tolerate physical activity and even impaired cognitive function. Drinking hot liquids can help keep the body warm. Soldiers that drink plenty of fluids and maintain a healthy diet will be at lower risk for CWIs.

- **Ensure proper nutrition.**
  The body burns calories by maintaining body temperature in extreme hot and cold conditions. Therefore, those exposed to cold environments need to consume more calories than usual and eat well-balanced meals to maintain energy levels and lower their CWI risk. Low blood sugar (hypoglycemia) makes it difficult to generate body heat, and low availability of carbohydrates limits physical activity capabilities. Food also contains electrolytes that are necessary water regulation in the body.

- **Be aware of hazardous conditions.**
  The presence of ice and snow in cold-weather conditions poses a great risk for slips and
falls that result in injuries to different parts of the body. These injuries may include sprains/strains and fractures to lower extremities (e.g., legs, ankles and feet) along with wrists and arms.

- **Get adequate sleep.**
  To achieve optimal performance, Soldiers should aim to get eight hours of sleep per 24-hour period. Physical fatigue has been shown to impair shivering and physiological responses to cold weather, increasing the risk of hypothermia. Mental and physical fatigue may cause Soldiers to neglect basic cold-weather protection measures.

- **Ensure proper ventilation.**
  Carbon monoxide poisoning occurring in cold-weather conditions is serious and life threatening, but preventable. Soldiers should not be permitted to sleep in vehicles while engines are running, tent stoves and heaters must be Army-approved, and sleeping tents must have proper ventilation.

- **Protect the eyes and skin.**
  Snow blindness and sunburn result from ultraviolet radiation exposure to unprotected eyes and skin. Snow, ice and lightly colored objects reflect the sun’s rays and increase injury risk. Wearing dark, UV-protective glasses or goggles can help prevent snow blindness. Soldiers can protect against sunburn in cold weather by using an alcohol-free sunscreen that blocks both UVA and UVB rays. Sunburn to the skin increases heat loss during cold exposure, increasing susceptibility to hypothermia, and causes pain that hinders a Soldier’s performance.

- **Avoid using alcohol and nicotine.**
  It is important to understand the body’s reaction to alcohol and nicotine in the context of a cold environment. Alcohol consumption produces peripheral vasodilation, gives a false sense of warmth and may impair senses and judgment, which makes it more difficult for a Soldier to detect a CWI. Nicotine causes peripheral vasoconstriction and decreased blood flow to limbs, which increases the risk for CWIs, especially frostbite.

For anyone working in a cold environment, it is important to balance the amount of time and activity spent outside to reduce the injury risk. Educating Soldiers about the steps needed to minimize the risk of cold injury, especially awareness of personal factors, is key in lowering the number of preventable CWIs.

**Sources:**

1. TB MED 508 Prevention and Management of Cold-Weather

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**COLD INJURY PREVENTION**

- **IMMERSION FOOT:** This is caused by continued exposure to wet, cold conditions. The surprising factor is it doesn’t have to be freezing cold. Immersion foot can occur at temperatures up to 60 F if the exposure lasts as long as 12 hours. Of course, if the temperature is lower, it can occur sooner. Symptoms include cold, numb feet that may have shooting pains, as well as redness, swelling and bleeding, particularly involving the toes.

  + **FIRST AID:** The most important step is to re-warm and dry the feet. Expose the feet to warm air and/or gently wrap in dry blankets or towels. Do not massage, rub or use salves or ointments on the feet. Do not expose the feet to extreme heat; if the feet are numb, the victim may get burned and not realize it. If you suspect trench foot, get medical help immediately.

- **CHILBLAIN:** This is a condition caused by exposure of bare skin to continued temperatures ranging from 20 to 60 F, depending on an individual’s acclimatization. Symptoms of chilblain include tender, hot-feeling, red and itching skin mainly on exposed areas like the cheeks, ears and fingers. Feet, however, also may be affected.

  + **FIRST AID:** Warm the Soldier’s affected body part with direct body heat, or move the Soldier to a warm area. Do not massage the area, rub with snow or ice or apply salves or ointments. Do not expose the area to any intense heat.

If the Soldier does not improve, seek medical help.

- **FROSTBITE:** This is a very common and potentially dangerous injury. The body is mainly water, and water freezes at 32 F. Frostbite occurs when the body cannot maintain sufficient internal heat in certain parts and the water in cells freezes. Areas that are most often affected are those areas exposed or where blood flow can be decreased such as fingers, toes, ears and other facial parts. Exposure to bare skin on metal, extremely cool POL, wind chill and tight clothing, particularly boots, can make the problem worse. Symptoms include numbness or tingling in the affected part; blisters, swelling or tenderness; body parts that feel dull or wooden; and
pale, yellowish or waxy-looking skin — gray in dark-skinned Soldiers.

**FIRST AID:** Frostbite is a medical emergency and the victim should be evacuated as soon as possible. If not treated properly, frostbite can lead to gangrene and amputation. Before evacuation, move the Soldier to a warm area and the part affected must be warmed with direct body heat or warm air. Do not warm with hot water or expose the part to intense heat. Do not massage or rub with snow or ice or use salves and ointments on the affected area. Do not allow the part to thaw and then refreeze.

- **HYPOTHERMIA:** This is a serious medical emergency. Hypothermia is caused by severe body heat loss due to prolonged cold exposure. Immersion in water can make hypothermia worse or come on more quickly because the water increases heat loss. Symptoms include lack of shivering and what has been described as “the Umbles” — stumbles, mumbles, fumbles and grumbles — all of which are signs of mental slowing and lack of coordination. Hypothermia can progress to unconsciousness, irregular breathing and heartbeat and, eventually, death.

**FIRST AID:** If you find a Soldier in the early stages of hypothermia, start warming the Soldier immediately. If his clothes are wet, remove them. Loosen any restrictive clothes. Wrap the victim in dry blankets or a sleeping bag. Another person can get into the sleeping bag as an additional heat source. Get medical help immediately.

If the Soldier is unconscious, cold to the touch and appears to have no pulse or breathing, don’t assume the Soldier is dead! Normal body temperature is 98.6 F. When body temperature gets down to 90 F, it tries to save energy and heat by trying to “hibernate.” It also decreases blood flow to the Soldier’s arms and legs, and his pulse and breathing become shallow. A Soldier may appear dead and his heart rate and breathing so low that untrained personnel miss it. Medics have resuscitated people with body temperatures as low as 82 F. Get the Soldier to a medical facility as soon as possible!
A lot of Soldiers take dietary supplements. Big pills, little pills, green pills, blue pills, bars, powders and drinks; you name it and you or your buddies have probably taken it. “So what?” you ask. After all, AAFES, supermarkets and drug stores couldn’t sell supplements if they didn’t work or weren’t mostly safe, right? Guess again. They can sell any supplement they want — whether it works or is safe.
What you need to know
What the stores, magazines, packaging and internet won’t tell you is dietary supplements are barely regulated by the government. Companies can say things like, “Simulates fat burning” or “Speeds recovery and enhances performance,” but they never have to prove these claims are true. Of course, they’re not supposed to make false or misleading statements, and the government can, in theory, fine them and make them stop, but only if they catch them. There are way too many supplements out there for the government to check on; and as soon as one is banned, a new one just like it hits the market.

Do they work? Are they safe?
In reality, most supplements don’t work as promised, and a few are downright dangerous. We know you don’t want to hear that and will probably ignore what doctors, nurses and scientists say. We also know you want to get every possible advantage so you can work and play harder, run farther, bench press more, have more energy, max out your PT test and be a better Soldier. We don’t blame you. After all, who wouldn’t want those things? Especially when the ads and packaging tell us we can get stronger and faster simply by taking a pill or drinking a protein shake. Well, remember that old saying — if it sounds too good to be true then it probably is? Bingo!

If you still feel like you have to take supplements, be especially careful of those found on the internet. Also, don’t stack them. Some contain impurities and extra ingredients that aren’t always listed on the label or website, including drugs that can cause you to fail your Army drug test or seriously harm your body. Right now, you could be taking these things without even realizing it. You can find up-to-date information on dietary supplements on the Operation Supplement Safety website, a Department of Defense resource for Soldiers and other service members, at https://www.opss.org/.

Risks and benefits
Most Soldiers who use dietary supplements realize some can be very dangerous. However, they also think the benefits of using supplements outweigh the risks. Unfortunately, since most are useless, you get no benefit — just risk — and spend a lot of money to boot. I know it’s hard to believe, but Soldiers have died after taking some supplements — especially the ones claiming to be workout boosters.

What is smart and safe?
First, do your best to eat a balanced, healthy diet. Carbohydrate beverages are good for helping you run farther and faster. But don’t overdo it; these drinks have a lot of calories. If you don’t have enough energy, try getting more sleep since most Soldiers don’t get nearly enough. Also, don’t smoke. In addition to potentially giving you cancer and wrecking your lungs, smoking hurts your athletic performance. It will slow you down when you run and decrease the rate at which you build muscle.

We wish we could give you a list of great dietary supplements to help you be healthier, have more energy, do your job better or perform better on the PT test, but we can’t. Just remember, we don’t get paid extra if you do or don’t take dietary supplements. So you decide who to believe — us or the folks who get richer when you fork over your hard-earned bucks!

Disclaimer
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Reducing the risk of hunting mishaps
As autumn continues to cool the air and leaves change colors, many Soldiers are getting ready to enjoy one of their favorite pastimes — hunting. By this point in the year, hunters have worked diligently to place cameras in just the right spot to aid in the identification of trophy animals and better understand when they are there and when they are not. Some have even planted food plots or placed bait stations near stands or ground blinds in hopes of bringing in the animals just a little closer.

All this time and effort has been spent to increase the probability of harvesting an animal, but have we put enough attention and effort into understanding one of the most dangerous portions of the hunt? Hunters must be mindful of their trek into and out of a hunting area. This is especially true if they are hunting on public access or wildlife management areas. These are great places to hunt for free, but hunters must be aware of their risk factors. While hunting on public access or WMAs, hunters need to think about how to safely traverse an area without alerting the animal. This seems like an easy task, but the execution is more difficult.

In an effort to reduce the risk of accidents, many states require hunters to wear blaze orange while traversing to and from their hunting location or during their hunts. Wearing blaze orange enhances other hunters’ abilities to see you while you move through the woods. This is especially important while traveling in low-light conditions.

During deer season, I am normally in the stand long before daylight and don’t leave until well past sunset. This, combined with the fact that hunters often travel long distances, often through dense underbrush, increases the chances of encountering a fellow hunter. Wearing blaze orange drastically reduces the chances of having an accident while traveling to and from your hunting location.

In addition to blaze orange, there are other ways to increase your safety. Let’s face it, no one expects to get into an accident when hunting. That is why the hunting industry developed items like the tree-stand safety harness. But before going hunting, you need to let someone know where you will be. Having all the safety gear in the world will not help if someone can’t find you. There are numerous smartphone apps available to aid in the sharing of your hunting location. Some hunters frown upon sharing their favorite spot because their “friend” may steal it. If this happens, find a new friend.

Finally, hunters need to follow some basic firearm safety procedures. First, treat every gun as if it was loaded. Second, do not point your weapon at anything you don’t intend to shoot. Third, keep your finger off the trigger until you are ready to shoot. And lastly, be aware of what is beyond your target. I know most of these rules seem intuitive, but hunting accidents happen every year because hunters fail to follow basic firearm safety rules.

For hunters, not much can compare to being in the woods. Keeping these tips in mind should allow you to have fun and successful hunting seasons for years to come without putting yourself or others at risk for injury or death.
Winter driving can be a hazardous task for Soldiers, especially in regions susceptible to a lot of snow. Severe weather can make road conditions unpredictable and treacherous. Even in southern locations, where winters are usually mild, unusual freezing temperatures or unexpected snow and ice may bring driving surprises. In addition to inclement weather, Soldiers are faced with fewer hours of daylight during these months. If proper techniques aren’t applied and Soldiers don’t exercise caution, winter driving could quickly turn into a tragedy.

It is important drivers prepare themselves and their vehicles for any conditions they may encounter. For most, driving in adverse weather usually takes longer and requires more attention to detail. Before a Soldier gets behind the wheel to perform an assigned mission, they should apply the risk management process described in Field Manual 5-19 and conduct preventive maintenance checks and services.

The threats Soldiers face during winter depend on specific situations and how well they are trained on proper driving techniques. Therefore, leaders should stress Soldiers attend driver’s training. A well-trained driver will be able to apply winter driving skills and be aware of how cold weather affects a vehicle before, during and after an operation in order to avoid an accident from occurring.

An important fact to remember is vehicles don’t stop as fast on ice or snow-covered pavement. When preparing...
to stop, drivers should allow for more time and slow down earlier than usual, especially when driving behind other vehicles. They should also maintain a greater distance between vehicles. Slowing down when following vehicles, in turns or just driving on straight roads will give drivers more time to react in the event of unexpected stops.

Drivers and TCs need to be deliberate in all driving actions. When turning the vehicle, drivers should release the gas pedal slowly and avoid fast, jerky movements. When a pedal needs to be pushed — gas or brake — it needs to be done easily and steadily. Road conditions must be observed and weather reports obtained before the mission starts. Even when it’s not snowing, the road could ice up in places where there’s moisture. This will happen more during the overnight hours when it’s colder.

Soldiers need to apply defensive driving techniques meticulously during the winter months and be alert for other motorists making mistakes on the road. Drivers should approach intersections cautiously to avoid skidding, and rearview mirrors need to be monitored for other vehicles that are traveling too close for the road conditions.

If a driver starts sliding, they should not panic or step on the brakes, which could send the vehicle into a skid. Simply let you foot of the gas pedal and steer the vehicle into the skid. For example, if driving straight and the rear of the vehicle starts sliding left and the front to the right, the driver should countersteer the vehicle to the left. If the vehicle corrects itself, straighten the wheel. Sometimes a driver will overcorrect, and the vehicle will slide the other way. If this happens, countersteer again in the opposite direction.

Because winter weather can affect visibility and stopping distances, here are a few tips Soldiers should apply when driving in adverse conditions:

- Ensure all service drive lights and reflective devices are clean and unobstructed.
- Allow extra time for the mission and reduce speed.
- Increase the distance between your vehicle and the vehicle in front and be certain you can stop within that distance.
- If visibility is reduced by fog, use headlights and/or fog lights.
- Remember to turn high beams off when they are no longer needed, as they can be a distraction to other drivers.
- Remember the obvious — snow can be seen, but ice isn’t always visible.
- Avoid sudden braking, accelerating too quickly and harsh steering in slippery conditions.
- Keep the windshield clear of snow and check from time to time that there is not a buildup of snow on the lights.
- Take precautions when crossing intersections when snow and ice are present.

**DID YOU KNOW?**

The valuable information and resources available in the Driver’s Training Toolbox provide every Soldier with the tools needed to complete the mission safely. Visit https://safety.army.mil/ON-DUTY/Drivers-Training-Toolbox and get started today. An AKO login is required.
Reducing the risk of running and sports injuries

In the last year, more than half of all Soldiers were diagnosed with an injury. Those injured are usually treated through outpatient visits, but they may be severely limited in their ability to perform certain physical activities for weeks or months. In some cases, injuries even result in medical discharges from the Army.
Two-thirds of Soldier injuries are musculoskeletal damage to a lower-extremity (e.g., knees, ankles, lower legs and feet). Most are common cumulative conditions called overuse injuries. Overuse injuries occur over several hours, weeks or months from repeated low-intensity forces to muscles, bones, joints, tendons and ligaments. Common overuse injuries include knee pain syndrome and chondromalacia ("runner's knee"), Achilles tendinitis, low back pain and stress fractures. Overuse injuries are the most frequent injury problem within the Army, costing billions in medical care and lost duty time. These injuries result from the substantial load bearing (i.e., on-foot) physical training conducted by Soldiers.

“Running is the primary activity that contributes to the injury problem among Army recruits and Soldiers,” said Tyson Grier, a kinesiologist in the Injury Prevention Division of the Army Public Health Center. “Other activities such as foot marching further add to the stress on the lower body, increasing injury risk.”

So is running bad for you? The simple answer is no. Running is an effective way to improve aerobic fitness; and being aerobically fit has proven to reduce one's risk of injury. For example, recent data show that Soldiers who have slow two-mile run times (e.g., men who take more than 15½ minutes and women who take over 19 minutes) have a higher risk of injury. Even Soldiers who look fit and are within body fat standards have a higher injury risk if they run slow.

Although scientific studies have determined excessive running can increase injury risk, the right amount of running is still an effective way to improve and maintain aerobic fitness and resilience against injury. The key is finding the right balance. To reduce
your risk of overuse injury:

- **Mix up your training.** Follow a training regimen that balances running with other aerobic exercises (swimming, biking, stationary elliptical or bike machines), strength training (resistance bands, plyometric or weight training), speed and agility (shuttle runs) and balance work.

- **Avoid running on repeated days.** Alternate with low-impact exercises.

- **Use running shoes in good condition.** Most people only need a comfortable, non-worn running shoe that fits. “As general guidance, replace running shoes every 300-500 miles or if any part of the sole starts to wear” Grier said. Evidence has not supported the value of special running shoes (control, arch, cushion or minimalist).

- **Take a load off your feet.** Ruck marching should not be used as an alternative to running. Carrying a heavy load a long distance contributes to lower extremity injury. Avoid long runs and distance marches on back-to-back days.

- **Pay attention to pain.** Pain, especially in a joint (knees, ankles, hips) or bones (shins, feet) can mean you are increasing distance or frequency too quickly. If this is the case, the first step is to reduce running or consider an alternative exercise. If the pain persists, seek medical evaluation.

**Other training and sports injuries**

Soldiers also experience serious acute injuries such as head concussions, cracked teeth, broken limbs, sprained joints and torn ligaments when participating in

**FYI**

For additional information, email the APHC Injury Prevention Division at usarmy.apg.medcom-phc.mbx.injuryprevention@mail. mil or go to the APHC injury prevention webpage at http://phc. amedd.army.mil/topics/discond/ptsaiP/Pages/default.aspx .
Sports injuries have required more medical evacuations from deployment than combat injuries. Sports injury prevention tactics as shown in Table 1 below can reduce risks.

A critical aspect of injury prevention is being aware of personal factors that increase your chance of being injured. Factors to be aware of are:

- A previous injury makes you more prone to re-injury to the same part of the body.
- Continued use exacerbates tissue damage and can increase the severity of an injury.
- Female Soldiers have a higher risk for stress fracture injuries, so they should ensure optimal bone health through proper nutrition and a healthy weight.
- Being overweight or underweight (compared to a healthy BMI between 18.5 and 25) increases your injury risk.
- Smoking and drug or alcohol use can slow bone and tissue healing and increases injury risk. Soldiers who prevent common injuries improve their performance and overall unit readiness. Consider changing your training regimen or behaviors to reduce your risk!

### EXERCISE/Sport

<table>
<thead>
<tr>
<th>EXERCISE/SPORT</th>
<th>TYPES OF COMMON INJURIES</th>
<th>INJURY PREVENTION</th>
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</table>
| Running                         | Overuse and stress reactions [Knees, ankles, feet, lower legs] | ★ Alternate running days  
★ ↓ volume (distance, frequency) – can ↑ intensity  
★ Synthetic (no cotton) socks to prevent blisters |
| Basketball                      | Traumatic damage (e.g. sprains /fractures) [Ankles, wrists, teeth] | ★ Ankle brace (Rigid/semi rigid)  
★ Mouthguards |
| Football                        | Traumatic damage [multiple locations]  
Overuse and stress reactions  
Head injuries (conciusions, other) | ★ Mouthguards  
★ Helmets  
◆ Protective padding  
◆ Prepping field/play area (removing stones/holes) [Flag] |
| Soccer                          | Traumatic damage (sprains/fractures) [Ankles, wrists, teeth] | ★ Ankle brace (rigid)  
★ Mouthguards |
| Weight-training (Free weights, weight machines) | Traumatic damage (sprains/fractures) [Shoulders, hands, other]  
Overuse and stress reactions [Shoulders, elbows, knees, lower back] | ◆ Proper technique (for body type and experience)  
◆ Warm up with lower weights/dynamic exercise  
◆ Avoiding excessive weight, reps (8-15 reps, 2-3 sets max)  
◆ Alternating days  
◆ Avoiding steroid use |
I t’s once again time to start thinking about winterizing your motorcycle — especially if you live in a cold climate such as Fort Drum, New York, or Fort Wainwright, Alaska. For those of us who live in warmer climates, winterizing means adding an extra layer of clothing for those early morning rides to work in December and January and possibly changing the oil viscosity. However, our friends up north may have already stored their street bikes and replaced motorcycling with riding their snowmobile, driving an all-terrain vehicle or skiing.
When it comes to putting your bike in winter hibernation, follow the directions in your motorcycle owner’s manual, or MOM. Wash and dry the motorcycle; drain the fuel tank; disconnect the battery by removing the negative cable first; lubricate the clutch and throttle controls; and change fluids, following your MOM’s recommendations. I like to remove the spark plugs and squirt a small amount of lubricant inside each cylinder. Before replacing the spark plug, I crank the engine a few times to spread the oil throughout the cylinder. Lubricating the cylinder like this will help keep the rings from sticking.

If you live in a climate where you can ride during the winter, change your fluids to the viscosity recommended by your MOM.

Remember, you’ll have to change your engine fluids more often during the winter because of the buildup of condensation in the oil tank and crankcase. If you ride often and long enough to frequently warm the crankcase to normal running temperature, most of the condensation will vaporize and be blown out through the breather. However, if you ride infrequently or only take short trips, you’ll need to change engine fluids more often to get rid of this condensation. The lower the freezing temperature drops, the more frequently you’ll need to change your fluids.

If you have a chain-driven bike, make sure the chain is cleaned and lubricated before winter storage. My own procedure is to remove the chain, lubricate it per specifications and let it soak all winter in a plastic bag. I learned this one the hard way when I had some links rust solid one year. If your bike is belt-driven, then follow the recommended care in your MOM. I also plug the exhaust and other engine openings to keep unwanted critters from hibernating there. Ensure you conspicuously mark everywhere you’ve placed a plug so you don’t forget to remove it come spring. There’s nothing more embarrassing than leaving a rag somewhere (like the carburetor or air filter intake) and not being able to start your bike.

Tires are probably the most overlooked and under-maintained part of any vehicle. Before storing your bike for the winter, make sure tires are properly inflated. If they’re worn, winter might be a good time to start saving for a new set for the spring. I like to get my bike on a stand to unload my suspension and prevent damage to the sidewalls should any of my tires lose air. I realize that may not be possible for some motorcycles; but if you can, I recommend doing this. Don’t forget to cover your bike to keep the gunk off and make spring cleaning a little easier. Also, a couple of strategically placed mothballs will assist with keeping the varmints away.

When it is time to ride again, follow the removal-from-storage steps your MOM specifies. Remember, take care of your bike and it will take care of you!
Preparing for winter
Vehicle preparation in the fall will help motorists avoid some winter-related problems. Get your vehicle inspected and winterized before the season starts. Go over your vehicle safety checklist, including the battery, lights, cooling system, windshield wipers and defrosters, floor mats and tires. Operators should practice installing tire chains before actually mounting them for use in icy and snowy conditions. Improperly mounted tire chains can be dangerous and may damage your vehicle.

Think ahead and stock your vehicle with supplies and emergency winter items such as warm clothes, gloves, boots, blankets, tire chains, a window scraper, snow shovel, reflective triangles and flashlight. For longer trips, it’s a good idea to carry a cellphone charger, water, food and necessary medication. Keep at least half a tank of gasoline in the vehicle at all times, and have emergency contact numbers saved in your cellphone. It’s also important to always allow extra time for your trip.

While driving
Before beginning your journey during winter weather conditions, ask yourself if the trip is absolutely essential. If so, make sure you listen to local and national radio for travel information and check local and national weather forecasts. Also, let someone know your travel plans.

When on the road, stay alert. Expect icy conditions any time the outside air temperature reaches 40°F or lower. While you can see snow, ice isn’t always visible. Bridge surfaces and shaded roadways exposed to the wind can cool and freeze faster than the rest of the road. Black ice can also occur unexpectedly and catch drivers by surprise. Driving at a safe speed on potentially icy roads (45 mph/70 kph or less) while avoiding sudden braking, acceleration or rapid
turns will decrease the possibility of losing control. The faster you travel, the more difficult it is to correct your vehicle in the event of a slide. If your vehicle does skid or slide on ice, remember the following three steps:

- Don’t hit your brakes. Braking triggers slides and makes existing slides worse.
- Turn into the slide. Turn your wheels in the direction the back of the vehicle is sliding.
- Don’t panic or overcorrect. Doing so may send the car into an unrecoverable spin.

General tips for driving in the snow include:

- Clear your windows and mirrors of snow and ice before you set out.
- Know your brakes. Whether you have antilock brakes or not, the best way to stop is threshold breaking. Keep the heel of your foot on the floor and use the ball of your foot to apply firm, steady pressure on the brake pedal.
- Avoid sudden braking, accelerating too quickly and harsh steering in slippery conditions.
- Give yourself time to maneuver by driving slower to meet conditions.
- Don’t overpower your vehicle up hills. Applying extra gas on snow-covered roads just starts your wheels spinning. Try to get a little momentum going before you reach the hill and let that carry you to the top. As you reach the crest of the hill, reduce your speed and proceed downhill as slowly as possible. Don’t stop while going up a hill.
- When driving at night, leave your headlamps on low beam when driving in snow or fog. This practice minimizes the reflection and glare, improves visibility and reduces eye fatigue.
- If visibility becomes poor, find a place to safely pull off the road as soon as possible.

In an emergency:

- Stay with your vehicle if you become stuck. Only leave your vehicle if it is in an unsafe location where there is a risk of being struck by other vehicles on the roadway. Your vehicle is typically the best possible shelter and makes it easier for rescuers to locate you.
- Tie a brightly colored cloth to the antenna or place a cloth at the top of a rolled-up window to signal distress. At night, keep the dome light on if possible. It only uses a small amount of electricity and will make it easier for rescuers to find you.
- Use whatever is available to insulate your body from the cold. This could include floor mats, newspapers or paper maps.
- If possible, run the engine and heater just long enough to remove the chill and to conserve gasoline.
- Make sure the exhaust pipe isn’t clogged with snow, ice or mud. A blocked exhaust could cause deadly carbon monoxide gas to leak into the passenger compartment with the engine running.

If you really don’t have to go out, don’t. Even if you can drive well in the snow, not everyone else can. Driving safely begins before you even get on the road. Plan accordingly to protect yourself and your loved ones.
Seeking Heat?

DIRECTORATE OF ASSESSMENTS AND PREVENTION
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During a fire, seconds count. That’s especially true when it comes to tent fires. A fire can engulf a tent in just 10 seconds and destroy it in 60. That gives Soldiers little time to react.

For Soldiers, working and training in all weather conditions is part of the job. As the mercury drops this winter, more Soldiers will seek heat from space heaters and stoves. Most of these devices will do their job properly, but they’ll also increase a Soldier’s risk to fires. In an effort to combat these risks, Product Manager Force Sustainment Systems manages a family of space heaters authorized for use by Army units. Units alerted for deployment should assess their environmental requirements versus on-hand space heaters and order the required heaters before deployment. Approved and tested Army personnel heaters include:

- **H-45** (NSN 4520-01-329-3451): The H-45 replaced the old potbelly M-1941. The H-45 will heat general-purpose and TEMPER tents and burns liquid and solid fuels.

- **Space Heater, Arctic** (NSN 4520-01-444-2375): The Arctic heater replaces the gasoline-burning M-1950 Yukon heater and is a lightweight, portable heater for five- and 10-man Arctic tents. The Arctic heater burns liquid and solid fuels.

- **Heater, Small** (NSN 4520-01-478-9207): The small space heater is ideal for use in smaller tents such as the four-man Soldier/crew tent. It burns liquid fuel and has a built-in tank, precluding the need for an external fuel can and stand.

- **Space Heater, Convective** (NSN 4520-01-431-8927): The convective space heater provides forced hot air for tents and shelters. This heater generates its own power and recharges its battery.

- **Thermoelectric Fan** (NSN 4520-01-457-2790): The thermoelectric fan is a compact, self-powered unit that fits on top of any military tent heater. The fan uses some of the heat to turn the blades, which circulates heated air, improves comfort and saves fuel.

Another hazard linked with tent heaters is carbon monoxide, a poisonous, colorless, odorless and tasteless gas produced as a result of the incomplete burning of natural gas and other carbon-containing materials such as kerosene, oil, propane, coal, gasoline and wood. When breathed into the body, CO enters the blood and deprives the heart, brain and other vital organs of oxygen.

Low levels of CO can result in shortness of breath, mild headaches and nausea — symptoms that are often confused with food poisoning, influenza and other illnesses. At moderate levels, individuals exposed to CO may experience tightness across the chest, severe headaches, dizziness, drowsiness and nausea. Extended or high exposures may result in vomiting, confusion, muscle weakness, collapse and even death. Leaders must ensure their Soldiers recognize potential sources of CO and the symptoms of CO poisoning.

Before using a space heater or stove in a tent, keep the following tips in mind:

- All heaters and stoves should be operated in accordance with the applicable technical manual.

- Place stoves in sandboxes when heating tents with wooden floors.

- Even in extreme cold, do not operate heaters at full capacity.

- Ensure tents have battery-powered smoke and CO detectors installed.

- In the event of a tent fire or suspected presence of CO, first and most importantly, evacuate the tent.

During the winter, it doesn’t get much more miserable than being stuck outdoors in a tent. By following the proper precautions when using space heaters or stoves, Soldiers can ensure they’ll stay warm and safe on the coldest of nights.
HOW SAFE IS YOUR ARSENAL?

Tactical ammunition and explosive storage

Editor’s note: The guidelines, tips and best practices in this article are applicable at COBs as well as forward operating bases and combat outposts.

PAUL CUMMINS
McAlester Army Ammunition Plant
McAlester, Oklahoma
n a tactical environment, a Soldier’s access to ammunition and explosives is virtually unlimited. Downrange, Soldiers may go to bed with their boots on, their web gear full of grenades hanging on the back of their bunk and a Light Anti-Tank Weapon stored on the floor underneath. As a Soldier, what are you to do to keep yourself and your battle buddies safe?

To begin with, Soldiers need to remember to treat weapons and ammo with respect. Never point the muzzle of a weapon at a buddy or anything you don’t intend to shoot. Don’t store inert or dummy munitions in the same location you store your live ammo. In addition, ensure your dummy/inert munitions are clearly marked. Inert munitions are valuable training tools; but remember, training never starts with the words, “Watch this.”

Muzzle awareness and proper storage — hooah, got it. That’s it, right? Not exactly. Let’s say you have been designated as the ammo officer during this deployment and you are responsible for the storage of all the ammunition and explosives on your contingency operating base. Your commander informs you that you have a shipment of your unit’s basic operating load showing up in two days. The previous unit’s ammo officer hands you a crumpled piece of paper that is supposedly a list of their remaining ammo, tosses you the keys to some containers and jumps on the freedom bird home.

Reluctantly, you go to the first container (luckily, it’s located next to your tent and the dining facility), unlock the door and peek inside. What greets you is a stack of small-arms ammo that looks like it’s been there since World War II. Not only that, it looks like someone shook the container like a martini.

When you open the second container, you’re relieved. This one is neatly stacked with 60 and 81 mm mortars and 105 mm rounds. They even have ammunition data cards on top. That’s all good, except your unit doesn’t use 105 mm rounds and doesn’t even have a 105 mm gun. What’s a Soldier to do? Actually, you have help. Your brigade safety officer and ammunition warrant officer know about ammo and explosives safety. Besides their immediate assistance, they know ammunition specialists throughout the theater that have experience with your issues.

A good first step is to set up a visit with an ammunition logistics assistance representative. The ammo LAR is a brigade asset that will help with storage compatibility, unserviceable ammo, packing, excess ammunition and documentation. This representative works closely with quality assurance specialist ammunition surveillance and the theater explosives safety officers. The QASAS are at the larger forward operating bases’ ammunition transfer holding points and ammunition supply points. The theater explosives safety officers are generally at higher headquarters. Together, with your brigade safety officer and ammo warrant officers, their jobs are to provide you the assistance needed to establish a safe and effective ammunition storage site.

Now, what can you do to help yourself? Start by organizing your ammo. Put it on pallets, separated by lot number. Record these different lot numbers and give the list to your ammo LAR or brigade ammunition warrant officer. They will review the list, focusing on items that are suspended or restricted. Let them know which munitions you don’t need and what items will likely require replenishment in the future. If you know some items are unserviceable or restricted, segregate those from the rest of your assets. Again, don’t store your inert/dummy/training munitions with your regular ammo.

With a complete list of all your ammo, your next step needs to be looking up net explosives weights in your “yellow book” (Hazard Classification of U.S. Military Explosives and Munitions). Using your calculator, you figure out that you have 1,500 pounds net explosives weight in your containers. Maybe having your ammo storage “conveniently” located next to your tent and the dining facility isn’t such a good idea. Bring this to the attention of the COB mayor. It might be time to move your arsenal.

OK, separate ammo by lot numbers — check. Call the ammo LAR — check. Segregate unserviceable items — check. Coordinate with the COB mayor — check. Point muzzles at the bad guys only — check. Wait, what about that LAW rocket? Maybe storing it underneath your bunk isn’t the best place. Come to think of it, you probably don’t need the web gear with grenades hanging off the back of your bunk either. But you just convinced the COB mayor to relocate the ammo to a safer location. Consider a ready ammo storage location. Just enough to meet mission requirements, but not so much that we have to crawl over it to get to what we need. Sounds like a good recommendation for the first sergeant.

Safely handling and storing ammunition and explosives in a tactical environment isn’t as simple as some think, but it’s much easier when you ask for and get the help you need. Remember, you can meet mission requirements better when you have a safe and effective storage location.
I have had three incidents involving deer while riding my Harley-Davidson two-up, meaning I had a passenger on the back of the bike. In each of those incidents, instead of hitting my brakes, I depressed my clutch and rode through the impact, keeping the tires rolling. This maneuver allowed me to remain in control of the motorcycle. Had I locked up the brakes, I’d have gone into a skid. I would have lost control and laid down the bike.

My fourth and most recent wildlife encounter occurred on a country back road. As I entered a left-hand curve, a deer sprinted out of the woods straight at me. The course of action I took was to swerve to the right to avoid making contact with him. I then had to pull the motorcycle back hard to the left to stay on track with the direction the road was taking. This put me into a left-side skid for about 25 to 30 feet. Sparks flew as I tried to gain control. With the road pavement running out in the direction of the skid, I decided to give it some gas to try and get on track. That worked; however, it was too late and my rear tire came off the side of the road, causing me and my Heritage Softail Classic to flip to the right. After a series of rolls, I quickly jumped up and checked myself for any injuries. By this time, my buddies who were riding behind me had come to a stop. They were shocked to see me standing up after witnessing what looked like a fireworks display caused by the sparks created as the metal scraped the pavement. We looked over the bike — which had a lot of damage, but was still drivable — before making the eight-mile ride back home.

Once in my driveway, I started

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**DID YOU KNOW?**

According to the Insurance Institute for Highway Safety, more than 1.5 million deer-vehicle accidents occur annually in the United States, killing about 150 people and causing at least $1.1 billion in vehicle damage. Motorcycle riders account for about half of the deaths in vehicle-animal crashes despite the fact that cars, trucks and SUVs outnumber motorcycles on the road 40 - 1.
to remove my leathers but was unable to lift my right arm. There was no pain, but it seemed to be locked in place. It was only after we’d taken off my jacket and shirts that we noticed my right clavicle was sticking up about two and a half inches above where it should be. To make a long story short, I now have new ligaments, tendons, two plates and four screws in my right shoulder. To make matters worse, about a week after my surgery, I slipped on some ice and reinjured my shoulder. When doctors performed an MRI, they discovered I also had broken my neck in three places.

Lessons learned
Fortunately, my injuries eventually healed and my bike was repaired, allowing me to enjoy many more hours cruising the back roads. But this incident left me with several important lessons learned.

1. Wear all of your personal protective equipment. During the accident sequence, I hit four large boulders — one with my head. My helmet saved my life that day, and riding leathers helped limit the injuries to my body as I slid down the road. There is no substitute for good PPE.

2. Don’t become complacent. I’d already hit three deer before this incident and always managed to keep the bike upright. This made me both complacent and overconfident in my abilities. Because the other incidents took place on straight roads, I never considered that a deer would come at me while I was in a curve.

3. Even when you’re close to home, keep alert. For years, I’ve heard that most accidents happen close to your home. It took this accident for me to believe it.

4. Expect the unexpected. Deer — and some motorists, for that matter — are unpredictable and don’t adhere to the rules of the road. Always keep your head on a swivel so you aren’t caught by surprise when a monster buck comes barreling out of the treeline or a distracted driver merges into your lane.

Here are some tips from motorcyclecruiser.com to help you avoid deer-motorcycle collisions:

• Deer travel in groups. One deer means there probably are more, so slow down immediately even if the one you see is off the road and running away.

• Heed deer crossing signs, particularly in the seasons and times of day when deer are active. Slow down, use your high beams and cover the brakes.

• The Wisconsin Department of Transportation says deer collisions peak in October and November, with a smaller peak in May and June. Such crashes between April and August are most likely to occur between 8 p.m. and midnight. Between November and January, 5 to 10 p.m. were the danger times.

• Additional good, powerful driving lights are worth their weight in gold on a deserted road at night. Alternatively, fit a headlamp with a 100-watt high beam.

• Noise — a horn, revving your engine, etc. — might drive deer away.

• Flashing your headlights can break the spell that seems to cause deer to freeze.

• Don’t challenge large animals by approaching them. A buffalo, moose, elk, mountain lion, bear or large deer might attack to drive you off. Stay back and consider turning and riding farther away.

• Stay away from an injured animal. It might attack or injure you unintentionally if it comes to and tries to escape.

• Don’t swerve if a collision appears imminent. Braking hard right up to the point of impact is good, but you want to be stabilized if you do collide, which will give you the greatest chance of remaining upright.

• Spread out if riding in a group. This pattern will keep a rider who hits a deer from taking other riders down with him.

• Wear protective gear. As with other crashes, no one plans to hit an animal.

The only way to be ready when it happens is to be ready on every ride.
The mission was to haul fuel to Dahuk and conduct refueling operations for the 1st Motorized Transportation Regiment. This called for three U.S. M1025 converted gun trucks, two Iraqi army fuelers and four 7-ton cargo trucks to travel about 60 miles from Al Kisik, Iraq, to the Kurdish city of Dahuk. The convoy was set to return that same afternoon along the same route with 15 additional vehicles. One oversight on the return mission, however, would tarnish an otherwise successful movement.
Al Kisik is a small town nestled between Mosul and Tal Afar and has become the site where Iraqi military forces are trained and based to support sustainment and stability operations. Among these newly formed units stands the 3rd MTR. For the 3rd MTR — which was still in training and struggling with the growing pains of leadership development, equipment acquisition and Soldiers learning the most basic of combat skills — this was its first real-world mission.

The pre-convoy briefing and preparation began at 0600, and the convoy rolled out the front gate just after sun-up. The ride to Dahuk went smoothly and, at this point, it appeared the planning was a complete success. Immediately following the refueling operation, NCOs and Iraqi officers began forming the Soldiers and vehicles for the return trip. The Iraqi leaders then organized the march order and gave pre-convoy checks and briefings. Unfortunately, a few problems were left unchecked.

The size of the convoy, number of inexperienced drivers and unknown mechanical condition of the vehicles were not addressed in the pre-convoy checks and briefings. About 30 miles into the return march to Al Kisik, the convoy experienced its first mechanical failure — followed by another and then another. The Iraqi soldiers struggled to recover the vehicles as they broke down. At the same time, Iraqi leaders fought to control communication as the remainder of the convoy continued ahead, leaving drivers and broken vehicles along a 15-mile stretch of highway.

Eventually, all the recovery equipment was expended, but vehicles continued to fail. As a result, the return road march lasted four hours longer than planned. Fortunately, no lives were lost and injuries were limited to smashed fingers and minor cuts.

**Lessons learned**

What caused a solid mission to go so unexpectedly wrong? Leaders failed to identify experienced drivers or conduct thorough pre-convoy checks and briefings on the expanded convoy. They also failed to ensure there were an adequate number of recovery vehicles accompanying the convoy should vehicles break down. Additionally, Iraqi junior leadership failed to control the convoy and communications. As a result, radio traffic quickly became cluttered with each breakdown.

There are several measures that can be taken to make convoy missions more successful, including:

- Pair experienced drivers with inexperienced co-drivers to use manpower more effectively.
- Provide radio communication training to reduce the chatter on the net.
- Tailor pre-convoy checks and briefings specifically for each and every convoy. Don’t merely restate previous briefings and checklists.
- Plan to have the correct recovery equipment in the convoy — and in sufficient amounts — to recover possible losses.
- Ensure the unit maintenance plan accounts for extended mission times and confirm vehicles are in proper working order before departure.

Ultimately, the mission was accomplished and all vehicles recovered. The lessons learned that night by the 3rd MTR Soldiers and leaders proved invaluable as the unit began accepting missions to support U.S. and Iraqi forces throughout northern Iraq.
People are unpredictable. How many times have you darted across a street where there was no crosswalk? Did you look both ways first? Do you know if vehicle drivers saw you? As a pedestrian, you can’t assume every driver knows your intentions. That’s a lesson I learned at young age.

I was 9 years old, walking home from the last day of fourth grade with my 6-year-old sister. I was so excited about summer break and in a hurry to get home. To save time, I decided to cross the street before reaching the corner where we always crossed. Traffic was lined up at the stop sign, so the cars in the lane I was next to were stopped. I walked behind the last car and looked to the right. It was clear. I turned to tell my sister to follow me and then started running for the other side of the road without checking for traffic again. I almost made it — almost.

I heard the screech of tires and felt the bumper hit my right knee, followed by the grill and hood against my right thigh and hip. As I was propelled into the air, I hit my forearm on the top of passenger-side quarter panel. I continued to flip through the air, breaking off the antenna and mirror with my back before landing in the street.

I never even saw the Cadillac coming. The driver didn’t see me either. She had just turned the corner and accelerated to 30 mph in the 15-mph school zone. She was in a hurry, too, as she raced to the school to pick up her daughter. Everything happened so fast that she didn’t even apply her brakes until six feet before impact.

When all was said and done, I’d suffered a concussion and received a few cuts and scrapes. My entire body
ached, but I didn't have any broken bones. I was fortunate to be alive — and even more fortunate my sister didn't listen to me when I told her to follow me. Wisely, she had stayed on the sidewalk.

After this accident, I had a new respect for cars. While the driver was in the wrong for speeding, I had to share the blame because I didn't use the crosswalk like I had every time before that day. Since then, I always look both ways three or four times before stepping into the road and constantly monitor traffic as I am crossing. When I am at a crosswalk in front of a stopped vehicle, I always make eye contact with the driver before I continue. In most states, I likely have the right of way in a crosswalk, but I never assume that a driver sees me and is going to stop. Also, when running for PT, I always face oncoming traffic and never wear headphones. If I need to answer my phone, make a call or send a text, I first step off to the side of the road. Some may call me overly cautious, but I'm determined to never be hit by a car again.

I wish this was the end of my story, but, unfortunately, several years later, the roles were reversed.

As I mentioned before, people are unpredictable. For example, how many times have you approached an intersection in your vehicle and seen pedestrians crossing even though you have a green light? How many people do you see walking or jogging in the street, oblivious to the traffic around them? How many people have walked out in front of you in a parking lot? How many kids have you seen blindly run into the street to retrieve a ball? As a driver, you can't assume a pedestrian sees your vehicle, even when you have the right of way. And in a battle of car versus pedestrian, I know all too well that the car always wins. Here's what happened.

Once again, it was summertime. I was now 16 and I had just gotten off work. Driving my mother's car, I was on my way to pick up a buddy who lived on the other side of the river. I was traveling in the right lane of a four-lane road at about 55 mph. The posted speed limit was 50 mph, so I was speeding, but not by much.

About a half-mile after crossing the long bridge that spanned the river, there was a traffic light, which was red. I had slowed to about 35 mph when the light turned green. The left lane had about six cars in it, but my lane was clear, so I started accelerating. As I began to pass the cars at the traffic light, they began to accelerate too. Just as my front bumper was even with the lead vehicle, a dark figure came across its headlights and then into mine. I immediately slammed on the brakes. My tires screeched and I felt a large thud. The feeling and sound of the impact sent a shiver down my spine. My bumper had hit the man's right leg and sent him tumbling through the air, landing on his head. He'd almost made it across — almost.

I stopped the car and ran back toward the point of impact. I found the man 20 feet from where we'd collided. He was a mess. Although he was lying face up, his legs were folded underneath him. But he was alive. In addition to two broken legs, his knees were shattered. He also had a broken arm and cracked ribs. He spent the next 18 months in a hospital, undergoing more than 20 surgeries to fix his legs and knees. He spent another two years in physical therapy learning how to walk again.

Although I blamed myself for the accident, the state troopers who worked the scene determined I was not at fault. The man had been drunk and was attempting to cross the poorly lit intersection despite having the “Don't Walk” signal. He was also wearing dark blue jeans and a black t-shirt and hat. Regardless, he spent eight years in legal actions against my parents in an attempt to recover damages for lost work and hospital bills. Fortunately, a judge later determined the same thing as the troopers and dismissed the lawsuit.

After this accident, I had a new respect for pedestrians. Since then, I always slow down at night when approaching an intersection, looking for pedestrians near the crosswalks. When I am at a stop sign, I always try to make eye contact with a pedestrian before they cross in front of me. Even if I have the right of way, I'll never just assume a pedestrian is paying attention. And when I see kids playing in a yard, I always slow down well below the posted speed limit. Some may call me overly cautious, but I'm determined to never hit someone with my car again.

Pedestrians and drivers must have a mutual respect for one another. After all, every day most of us are either one or the other. Whether it is texting while walking or fiddling with the GPS or radio while driving, limit the distractions when you are on the move and pay attention to the task at hand. As someone who's been on both sides, I can tell you neither one is much fun. Either one of these accidents could have ruined my life at a very young age. Don’t let one ruin yours.
It was early evening and our convoy commander was summoned to the command operations center. A unit that had been engaged in combat earlier in the day had a disabled vehicle on the north side of Buji Bast Pass. We'd just returned from that northern area after a 36-hour convoy and were looking forward to some much-needed rest. But as luck would have it, someone needed assistance, so we headed back out.

The convoy knew the Buji Bast Pass well. It was the enemy's preferred location for ambushing coalition forces. We'd gained all of our combat experience in this rugged, often impassable stretch of mountainous terrain. This area had become our war zone, and we were always prepared for an enemy encounter. We were meticulous in our planning and had never suffered a casualty. We were good … or so we thought.

This night was no different, and we were motivated to go back out and “get some.” We checked and double-checked our night vision equipment, as well as all of our infrared equipment, for serviceability, just in case. We never wanted to find out a piece of equipment was not working properly when we needed it most. We were always ready for war.

The convoy commander conducted the convoy brief while the assistant convoy commander made sure all communication equipment was operational. We had food for three days and enough water to last at least five days. We also had plenty of ammunition in case of a heavy battle — something we had not been exposed to yet. We'd followed these procedures for the previous six months and had everything down pat. We'd never been in a gunfight only to realize we'd forgotten something or could have done better if we'd brought something else. We were past second-guessing. In fact, other convoy commanders would often ask for our help in employing the same procedures and tactics.

Eventually, we departed for another potential encounter with the enemy, expecting once again to prove our superiority. We'd mastered our tactics and procedures, and there was no way we could come up short. We'd been in at least seven firefights with the enemy and always came out on top.

The enemy's weapons of choice were improvised explosives devices, which were spread throughout the Buji Bast Pass. The convoy commander had just finished radioing headquarters that we were three kilometers from the pass when
the first vehicle in our convoy, an MRAP, hit an IED. Engineers had swept the area for IEDs, but, as was often the case, these explosive devices were more sophisticated. This particular device had a carbon-based fuse, which made it harder to spot with our metal detectors.

The convoy commander, who often rode in the first vehicle, had already hit five other IEDs before this one. This device, however, was so powerful that it totally dismantled the MRAP’s mine roller. The blast lifted the mine roller over the front of the vehicle, and its frame came to rest over the gun turret. Fortunately, no one was injured. The mine roller had done its job — saving lives and equipment.

The MRAP’s crew was evaluated and treated, and the convoy continued. The damaged MRAP moved to the second spot in the convoy until we arrived to recover the disabled truck. There, the convoy commander decided to replace the turret of his MRAP with the one from the disabled vehicle. The Marines took a much-deserved rest while the switch was made. Once we recovered the vehicle, it was time to head south again.

About a kilometer south of the earlier IED blast, the convoy began taking indirect and small-arms fire. The convoy commander decided to use a leapfrog method to get everyone out of the kill zone and gain fire superiority. (This is where one gun truck provides suppressive fire until the next one comes up to replace it. The vehicles continue leapfrogging until all are out of the kill zone.) Everything was going well until the damaged MRAP began shooting and hitting well below its intended target.

The truck’s fire was ineffective, and the enemy forces were gaining the upper hand with their machine guns. That’s when the convoy commander called in the other gun trucks to provide suppressive cover fire while all the other trucks got out of the kill zone. Luckily, there were eight gun trucks in this convoy. When all the trucks had passed, we outflanked and eliminated the enemy.

Once we returned to base, an armorer examined the weapon on the damaged MRAP to determine why it was shooting so low. He discovered the barrel had been damaged internally from the IED blast — something we hadn’t considered. This provided us an important lesson learned: We must always conduct preventive maintenance checks and services on all of our convoy vehicles, regardless from where we are departing.

PMCS is the checks, service and maintenance we’re required to perform before, during and after any type of vehicle movement or before the use of equipment. Most pieces of equipment have a PMCS chart used to go over every detail needed to ensure the proper function of every mechanical item or non-mechanical surface. Checks are also conducted at weekly, monthly, semi-annual, annual and bi-annual intervals, depending on the specific equipment.

Doing a PMCS check every time equipment is used will reduce the number of failures and prevent accidents. It will also reduce the number of injuries during training deployments and exercises, improve effectiveness in combat and increase the Soldier’s ability to implement their equipment. As we discovered, one damaged weapon left unchecked can put an entire convoy in danger.
The night began innocently enough — just a group of friends celebrating our Army flight school graduation. We started with dinner and ordered a round of beers. I was driving that night and knew one beer wasn’t going to get me drunk. As we continued to eat, we ordered another round of beers. With a stomach full of food and two beers, I felt sober and drove everyone to our next location, where the celebration continued.

When the night finally ended, my buddy asked, “Are you OK to drive?” Despite the amount of alcohol I drank, I thought I felt fine and believed my blood alcohol concentration was under the legal limit. I am embarrassed to say I was wrong, which I found out when I was pulled over by the local police and later arrested for driving under the influence.

Prior to my arrest, I attended the mandatory safety briefs. For me and most of my classmates, briefs were just a check-the-block necessity to have our leaves and passes approved. I can tell you what my classmates were thinking during the brief — if they were even listening. It was either, “I am so lucky I didn’t get caught last weekend,” or, like myself, “I rarely go out, and when I do, I’m never the one driving.” Unfortunately, I am living proof that once is all it takes.

As many of us look to our peers for guidance, I am writing this to you, Soldier to Soldier. My hope is to inspire at least one other Soldier to not make the same decision I did when I chose to get behind the wheel after drinking alcohol. I have the same dream as many of you. When I was 8 years old, I told my father, “Daddy, I want to be an officer in the Army and fly helicopters.” As a 67J aeromedical evacuation officer, my path to flight school may have been slightly different than some aviators, but it was no less difficult. I took the same flight physical as everyone else, assembled a packet that was reviewed by a flight board and I waited anxiously for the results. When I received the phone call congratulating me on my acceptance, I thought I had finally achieved my childhood dream. That dream came to a screeching halt the night I drove intoxicated.
I am now facing a General Officer Memorandum of Record, which will most likely end my career. No more flight school, no more promotions and no more Army. As I write this, my future in the armed services is uncertain.

Although the end of your career may seem like the end of the world, DUIs can have more serious consequences. How many Soldiers do we have to lose after being hit by a drunk driver? I consider myself lucky that a police officer pulled me over before I wrapped my car around a tree or hit an innocent motorist driving the opposite direction. Could you bear the guilt of taking someone’s life?

There is also the organization as a whole to consider. We are an Army at war. I was chosen above my peers to fill a slot as a 67J. As a result of my mistake, there is the very real possibility I will be separated from the Army, and this slot will go unfilled. Consequently, there may be one less pilot available to evacuate a wounded Soldier. Unfortunately, many of us try to subjectively judge our level of impairment without knowing exactly how a BAC of .08 feels. I know now that if I had even the slightest doubt in my sobriety, I should have called a taxi and never subjected my friends to ride in my vehicle or risked my career. It didn’t matter whether I had one beer or 10 before getting behind the wheel. It wasn’t worth taking the chance.

While people might react differently to alcohol, we can’t use the excuse of not feeling drunk to justify a stupid mistake. Our careers, our lives and the lives of those around us are at risk and are worth far more than any taxi fare. As a Soldier, I can tell you from first-hand experience.
ON-DUTY FATAL MISHAPS

Live-Fire Training Mishap
- The range officer in charge developed a concept of operations for reflexive fire with M17 pistols and M4A1 carbines. The OIC briefed the CONOP and risk assessment to the battalion commander, who briefed the brigade commander. The brigade commander directed the unit to include 25-meter zero and alternate qualification and approved the training. The unit scheduled the training for two days. At noon on the second day, the OIC instructed the Soldiers on the range to expend the remaining ammo. He directed them to fire for 10 minutes, followed by a 10-minute break to allow the weapons to cool down. The Soldiers then loaded 140 M4 magazines and all the M17 magazines. The first firing order walked to the reflexive fire position about 10 meters from the target boards and began to fire. There were no line safeties present, and the OIC and range safety officer were not directly supervising the firing line. The OIC was reviewing paperwork at the range support vehicle, and the RSO was at the ammo point. The OIC called for a cease-fire approximately seven to eight minutes after the Soldiers began firing. All the Soldiers on the firing line placed their weapons on the ground. Within five to 10 seconds, a single round discharged from a weapon, striking a Soldier on the firing line. The board concluded this round “cooked off,” a detonation of a live round in the chamber caused by an overheated barrel.

Human Factors in a Degraded Visual Environment
- During the aircraft run-up, the pilot station NVS failed its operational checks. The safety investigation board believes the routing of the NVG power supply wires interfered with signals from the sensors on the PC’s helmet. Regardless, the PC decided to operate the aircraft during a night mission. The crew was repositioning from the FAARP to its designated parking area within the tactical assembly area. The environmental conditions in the TAA were extremely dusty. The pilot initiated a downwind approach to land and, during the final approach, the MPNVS, not fully driven by the PC’s helmet, degraded the NVS performance. Degraded NVS performance coupled with the brownout conditions disoriented the pilot. The pilot touched the tail wheel down just as he browned out, and decided to execute a go-around. The pilot applied 102 percent torque and placed the aircraft in a 25-degree nose-low attitude. The 30mm cannon struck the ground, initiating the crash sequence. The crew suffered minor injuries and the crash destroyed the aircraft.

Fatal Propellant Mixing Operation
- The work crew arrived at the air-dry building ahead of the scheduled pull time. Nearing the end of the shift, the crew leader started pulling the propellant mixtures from the air-dry tanks before the one-hour cooldown time was complete. The crew went about their previously agreed duties and successfully emptied one tank of propellant before moving to the accident bay. Two crewmembers on the bottom floor of the air-dry building put the receiving buggy in place and were managing the butterfly valve on the discharge chute. The team leader, working on the top floor, removed the tank distributor cap and began to “stick out” the propellant stuck on the side of the tank with a wooden paddle. During the sticking out process, the propellant ignited, causing an immediate flash fire that engulfed both the upper and lower floors of the bay. The initial pressure associated with the flash fire caused the bay’s roof to lift slightly, allowing flames to propagate to a neighboring bay. The propellant in the neighboring bay, still enclosed, detonated, causing significant damage. The resulting fire in the accident bay fatally injured the team leader, significantly injured the crewmembers on the bottom floor and resulted in more than $500,000 of damage to the structure.

A First Lieutenant assigned to 75th Ranger Regiment, Fort Benning, Georgia, died in an Army combat vehicle mishap at 2141 local. The Soldier was the tank commander of an M-1126 Stryker, supporting live-fire operations on the installation under limited visibility, when the vehicle overturned into a ditch adjacent to the road. He suffered fatal injuries, while the driver and a second Soldier sustained non-fatal injuries.
OFF-DUTY FATAL MISHAPS

PMV-2
- A 20-year-old Private First Class assigned to 1st Infantry Division, Fort Riley, Kansas, died in a PMV-2 mishap at 2330 local. The Soldier was riding his motorcycle when he crashed at a traffic circle on the installation. He had sport bike rider training and was wearing his personal protective equipment at the time of the mishap.

- A 50-year-old Sergeant First Class assigned to the Alabama Army National Guard died in a PMV-2 mishap near Pass Christian, Mississippi, at 0608 local. The Soldier was operating a motorcycle on the interstate while on leave when it was reportedly struck in the rear by a vehicle. He recovered from the initial impact and was attempting to remove his motorcycle from the roadway when he was struck by a pickup truck. The Soldier had completed the Basic RiderCourse, but personal protective equipment use has not been verified.

- A 25-year-old Sergeant assigned to U.S. Army Europe, Vicenza, Italy, died in a PMV-2 mishap in Asiago, Italy, at 1600 local. The Soldier was operating a motorcycle when he lost control negotiating a curve and struck a brick wall. He was wearing a helmet. Motorcycle Safety Foundation training has not been verified.

- A 28-year-old Staff Sergeant assigned to 10th Mountain Division, Fort Polk, Louisiana, died in a PMV-2 mishap in Burkeville, Texas, at 1933 local. The Soldier was operating a motorcycle when he reportedly lost control after striking loose gravel on the roadway. He was thrown from the motorcycle and struck by an oncoming vehicle. The Soldier had completed the Motorcycle Safety Foundation’s Basic RiderCourse. PPE use is unknown at this time.

- A 21-year-old Specialist assigned to 82nd Airborne Division, Fort Bragg, North Carolina, died in a PMV-2 mishap in Fayetteville, North Carolina, at 0807 local. The Soldier was operating a motorcycle with the right of way when he collided with a truck that turned into his path of travel. He was wearing PPE and had completed the Motorcycle Safety Foundation’s Basic RiderCourse.

- A 24-year-old Sergeant assigned to 1st Armor Division, Fort Bliss, Texas, died in a PMV-2 mishap in El Paso, Texas, at 2015 local. The Soldier was riding on a highway with other riders when his motorcycle struck the rear end of a vehicle as it prepared to exit via an off-ramp. He was pronounced dead at the scene. Speed is suspected as a contributing factor. The Soldier had not completed the Motorcycle Safety Foundation’s Basic RiderCourse, and PPE use was not reported.

- A 23-year-old Second Lieutenant assigned to 101st Airborne Division, Fort Campbell, Kentucky, died in a PMV-2 mishap in Clarksville, Tennessee, at 1200 local. The Soldier was on leave while operating his motorcycle with the right of way when he collided with a vehicle that turned into his path of travel. He was wearing an approved helmet.
PMV-4

- A 50-year-old Active Guard Reserve Sergeant First Class assigned to the North Dakota Army National Guard died in a PMV-4 mishap near Devils Lake, North Dakota, at 1500 local. The Soldier was traveling on a two-lane road when his vehicle struck the rear of an 18-wheeled tractor-trailer that had slowed to make a left turn.

- A 20-year-old Private assigned to 1st Cavalry Division, Fort Hood, Texas, died in a PMV-4 mishap in Georgetown, Texas, at 0200 local. The Soldier was a passenger in a vehicle driven by another Soldier when it struck the rear of a semi-truck/trailer. He was killed upon impact, and the driver was transported to a local hospital with injuries. Alcohol is suspected as a factor in the mishap.

- A 22-year-old Specialist assigned to 10th Mountain Division, Fort Drum, New York, died in a PMV-4 mishap in McKinley County, New Mexico, at 2245 local. The Soldier was operating a rented vehicle on the interstate when it struck the rear of a pickup towing a fifth-wheel trailer. Excessive speed and driver inattentiveness are suspected as contributing factors. The Soldier was reportedly not wearing a seat belt.

- A 22-year-old Specialist assigned to 1st Armored Division, Fort Bliss, Texas, died in a PMV-4 mishap in Pecos, Texas, at 0850 local. The Soldier was thrown from his vehicle after it reportedly left the interstate and overturned. Seat belt use is unknown.

- A 22-year-old Specialist assigned to the Maneuver Center of Excellence, Fort Benning, Georgia, died in a PMV-4 mishap in Caldwell, Texas, at 0330 local. The Soldier’s vehicle reportedly crossed the centerline, struck oncoming traffic head-on and rolled numerous times.

- A 28-year-old Specialist and 37-year-old Staff Sergeant assigned to the Warrior Transition Battalion, Fort Benning, Georgia, died following a PMV-4 mishap in Harris County, Georgia, about 1900 local. The Soldiers’ vehicle exited the roadway, struck an embankment and overturned. Speed is suspected as a factor in the crash.

- A 28-year-old Private First Class assigned to the New York Army National Guard died in a PMV-4 mishap in Yorktown, New York, at 0645 local. The Soldier was en route to his annual training duty location when his vehicle crossed the centerline and struck oncoming traffic head-on.

- A 27-year-old Sergeant assigned to U.S. Army Recruiting Command, Ronkonkoma, New York, died in a PMV-4 mishap in Patchogue, New York, at 0007 local. The Soldier was operating a vehicle when it reportedly exited the roadway and struck a tree. He was pronounced dead at the scene. Seat belt use is unknown.

- A 20-year-old Specialist assigned to 1st Infantry Division, Fort Riley, Kansas, died in a PMV-4 mishap in Cortez, Colorado, at 2315 local. The Soldier was on leave when his vehicle was involved in a multi-vehicle mishap.

- A 19-year-old Private assigned to 1st Cavalry Division, Fort Hood, Texas, died from injuries sustained in a PMV-4 mishap that occurred the prior day in Little Rock, Arkansas, at 0840 local. The Soldier was on leave when his pickup left the roadway in dry weather conditions and crashed. Authorities suspect speed was a factor in the crash.

- A 20-year-old Specialist assigned to 1st Cavalry Division, Fort Hood, Texas, died in a PMV-4 mishap in Gardner, Kansas, at 0130 local. The Soldier was on leave when his vehicle left the roadway in dry weather conditions and struck a culvert.

Sports and Recreation

- A 28-year-old Specialist assigned to U.S. Army Europe died in a swimming mishap at Riedsee Bei Leeheim, Hesse, Germany, at 1650 local. The Soldier swam with a group to a large inflatable approximately 30-40 meters out, and submerged while returning to shore. He was recovered and transported to a local hospital, where he died from water inhalation complications.

- A 31-year-old Staff Sergeant assigned to 4th Infantry Division, Fort Carson, Colorado, died in a water-related mishap at Pueblo Reservoir Lake, Pueblo, Colorado. The Soldier reportedly jumped off a rock ledge into the lake and did not resurface. A search-and-rescue team located his body the following day, at which time he was pronounced dead. The Soldier had allegedly been consuming alcohol prior to entering the water.
UNMANNED ≠ EXPENDABLE

- Conduct deliberate mission planning and reassess as mission dictates
- Secure proper mission approval and update as risk elements change

- Know your equipment
- Stay in the fight, follow your checklist

https://safety.army.mil
• The right conditions can help set up anyone for failure when it comes to cold weather injuries, regardless of their rank, age, fitness level or gender.

• Leaders must be present among their Soldiers and remain alert for the signs and symptoms of a cold weather injury.

• Cold weather injuries sideline Soldiers and impact a unit’s readiness. However, it’s just as important for Soldiers to take their cold weather training home and share what they’ve learned with their loved ones.

COLD WEATHER INJURY PREVENTION

Take advantage of the risk management process and tools the Army provides to help keep you safe. Remember, IT’S YOUR LIFE, BUT OUR LOSS. To learn more, visit https://safety.army.mil.
The right conditions can help set up anyone for failure when it comes to cold weather injuries, regardless their rank, age, fitness level or gender.

Cold weather injuries sideline Soldiers and impact a unit’s readiness. However, it’s just as important for Soldiers to take their cold weather training home and share what they’ve learned with their loved ones.

Leaders must be present among their Soldiers and remain alert for the signs and symptoms of a cold weather injury.

Prevention
Take advantage of the risk management process and tools the Army provides to help keep you safe. Remember, IT’S YOUR LIFE, BUT OUR LOSS. To learn more, visit https://safety.army.mil.
PROFESSIONAL CERTIFICATE HOLDERS

CP-12

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