SUMMER IS HOT

Critical Days of Summer 2011

27 May – 6 September

AIR FORCE SAFETY CENTER

Air Force Critical Days of Summer 2011

The objective of the Air Force Critical Days of Summer Campaign 2011 is to call attention to the tragic loss of Airmen during the summertime and to reenergize "Risk Management" concepts used by our Airmen.

Modules can be used in whatever order best suits the environment at each installation.

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Critical Days of Summer 2011

Why the need for a summer safety campaign?

Since FY02 (9 years) the Air Force has experienced 218 fatalities During the Critical Days of Summer (201 off-duty, 17 on-duty). We do not calculate Memorial Day through Labor Day because the CDS starts a few days before Memorial Day (always including the entire Memorial Day weekend) and ends sometimes a few days after Labor Day.

This year we have designated the time period of *27 May through 6 September 2011* as the Air Force Safety Center's "Critical Days of Summer" safety campaign. Our vision this year is to ensure all of our Airmen have zero preventable fatal mishaps and an injury free summer.

Although not every week applies to everyone, there are still lessons learned from every week that apply to all members of the Air Force.

Critical Days of Summer Video Competition

Official Competition Rules

A Critical Days of Summer (CDS) video competition is being hosted by the Air Force Safety Center (AFSC). The competition begins two weeks before the start of the Critical Days of summer; 13 May 2011. The competition is open to the entire Air Force family including active duty, Guard, Reserve, Air Force civilians, spouses and children.

Entrants may upload original videos to their YouTube page. Then go to the AF Safety Center YouTube page and click on *Send a Message*. Within the message, attach the uploaded video from your page and provide contact information for yourself and/or the point of contact.

- The video may be up to 180 seconds in length on one or more topics relating to **off-duty** safety.
- The videos should convey effective ways to safely conduct off-duty activities, such as, but not limited to car/ motorcycle driving, use and handling of privately owned weapons, water- related activities or sports activities, home and child activities, weather, alcohol prevention, risk management, BBQ/grilling, and countering fatigue.
- Acceptable video formats are: avi, flv, mov, wmv.

To enter:

1. To enter, upload your video on the AF Safety Center YouTube page during the competition period. Instructions are above.
    - If you don't have, and don't intend to set up, a You Tube account, please email family.matters@kirtland.af.mil for instructions.
2. An email message will be sent to you once your video has been accepted and actively loaded onto the site for viewing by others.
3. All entries must be submitted no later than 22 August 2011. All entries will be acknowledged within 10 business days.
4. AFSC representatives will judge video entries based on three criteria: concept/idea (25%); effectiveness of the message (50%); and creativity (25%).

Conditions of Contest

The finished product may not infringe on any third-party proprietary, intellectual property, industrial property, personal rights or other rights, including without limitation, copyright, trademark, patent, trade secret or confidentiality obligation (to include music). Video must be the original work of the entrant. While safety videos with a humorous slant are encouraged, no people or animals may be injured or put in danger of injury, nor any unsafe acts undertaken during the making of the video.

Finalists will be notified by e-mail or telephone and will be required to provide a list of all personnel who participated in making the video with appropriate credits given (actors, videographers, editors etc.).

By participating, entrants: (a) agree to these official rules and to the decisions of the judges in all matters, including the voting process, relating to the competition, which decisions shall be final in all respects; (b) consent to the use of their name, likeness and location for advertising and publicity purposes by the AFSC (c) represent that the video submitted is their sole and original work and does not infringe the intellectual property right of any other party. The ownership of and all intellectual property rights in and to the video shall remain with the participant. To the extent permitted by law, entrants agree to hold the US Air Force harmless from any injury or damage caused or claimed to be caused by participation in the contest.

Participants agree that personal data, especially name, email address, and phone number, may be processed, stored and otherwise used for the purposes and within the context of the contest and any other purposes outlined in these rules. The data may also be used by the AFSC in order to check participants' identity, their phone number, or to otherwise verify their eligibility to participate in the contest and to receive any prize. Participants have a right to access, review, rectify or cancel any personal data held by the AFSC. If participant's data is not provided or is canceled, participant's entry will be ineligible.

In the event that the AFSC determines that the integrity of the competition has been impaired or corrupted for any reason, and, as a result, cannot be offered or completed as planned, AFSC reserves the right to cancel or terminate the competition and to select winners from among eligible entrants legitimately received prior to the event causing cancellation or termination.

Module 1: Motorcycle Safety – Ride Smart

Whether you are just starting to think about purchasing your first bike or a seasoned motorcycle veteran, motorcycle safety should always be your prime concern and a riding course is always a good idea.

The *Motorcycle Safety Foundation* states the following about motorcycle safety:

- A motorcyclist should attend a motorcycle rider-training course to learn how to safely and skillfully operate a motorcycle
- A motorcyclist has to be more careful and aware at intersections where most motorcycle/vehicle mishaps occur
- Motorcyclists must remain visible to other motorists at all times. Don't ride in a car's blind spot
- Anticipate what may happen. For example, anticipate that drivers backing their cars out of driveways may not see you. Also, place greater emphasis on defensive driving
- Motorcyclists must be more cautious when riding in inclement weather, on slippery surfaces, or when encountering obstacles on the roadway
- Motorcyclists must place greater reliance on their helmet, eye protection and clothing to increase riding comfort and to reduce the severity of injury should they become involved in a motorcycle mishap
- Approximately half of all fatal single-vehicle motorcycle mishaps involve alcohol. A motorcycle requires more skill and coordination to operate than a car. Riding a motorcycle while under the influence of any amount of alcohol significantly decreases an operator's ability to operate the motorcycle safely
- An estimated one-third of motorcyclists killed in traffic mishaps are not licensed or are improperly licensed to operate a motorcycle. By not obtaining a motorcycle operator license, riders are bypassing the only method they and state licensing agencies have to ensure they have the knowledge and skill needed to safely and skillfully operate a motorcycle

Some Causes of Motorcycle Mishaps:

- Lack of basic riding skills
- Failure to appreciate the inherent operating characteristics
- Failure to appreciate the limitations of the motorcycle
- Failure to use special precautions while riding
- Failure to use defensive driving techniques
- Lack of specific braking and cornering skills
- Failure to follow speed limit

When heading out for a ride, I always wear my PPE.
How about you?

U.S. Air Force Safety Center

Module 2: Bicycle Safety – Watch Out Because They Might Not

According to the *Center of Disease Control and Prevention*, each year more than 500,000 people in the US are treated in emergency departments and more than 700 people die as a result of bicycle-related injuries. Although automobiles should always be on the lookout for bicyclists, it is important for bicyclists to remember the following tips to avoid collisions with automobiles and remain safe while riding a bicycle:

- Wear a properly fitted bicycle helmet and make sure the bicycle is ready to ride by checking equipment
- Avoid busy streets
- Headlights and rear lights are extremely important, especially when riding at night
- Take the whole lane when appropriate
- Signal your turns
- Rethink using portable music players or mobile phones. Stay alert at all times
- Ride with the traffic flow and obey all traffic laws
- Look before turning
- Watch for parked cars
- Never ride on a sidewalk or area that isn't designated for bicycles
- Yield to traffic when appropriate
- Be predictable. Ride in straight line, not in and out of cars. Signal your moves to others
- See and be seen by wearing something bright, even during the day
- Don't ride in an automobile's blind spot
- Ride further left to hold your lane

Remember that bicycle riders on public roads have the same rights and responsibilities as motorists and are subject to the same rules and regulations.

Module 3: Fun in the Sun Can Be Painful

The weather is getting warmer, schools are letting out and people are spending more time outdoors enjoying the warmer weather. Always be aware of heat conditions. Extreme heat conditions allow for potential heat-related illnesses and injuries, such as dehydration, heat exhaustion and heat stroke. The signs of heat exhaustion are heavy sweating, weakness, dizziness, headache, nausea and fainting. Heat stroke can lead to death if not treated quickly. The signs of a heat stroke are headache, dizziness, confusion and unconsciousness. Individuals suffering from a heat stroke need immediate medical attention.

Keep these outdoor safety tips in mind to prevent heat exhaustion or stroke and to ensure your summer is a safe and pleasant one:

- The first and probably best line of defense against the harsh sun is wearing the proper clothing like a long sleeved shirt and/or long pants, sunglasses that block 100 percent of ultraviolet rays and a hat with at least a three-inch brim
- Sunscreen is imperative when out in the sun. Apply and reapply sunscreen when out in the sun, especially during peak hours

According to the *University of California at San Francisco's School of Medicine*, "Sunblock protects your skin by absorbing and/or reflecting UVA and UVB radiation. All sunblock have a Sun Protection Factor (SPF) rating. The SPF rating indicates how long a sunscreen remains effective on the skin. A user can determine how long their sunblock will be effective by multiplying the SPF factor by the length of time it takes for him or her to suffer a burn without sunscreen."

The *American Association of Dermatology (AAD)* recommends that a broad spectrum sunblock with an SPF of at least 15 that is applied daily to all sun exposed areas, then reapplied every two hours. However, in some recent clinical trials, sunblock with SPF 30 provided significantly better protection than sunblock with SPF15.

Waterproof sunscreens last awhile in the water, but reapply sunscreen when coming out of the water.

- Apply a lip balm with at least SPF 15 on your lips
- Stay in the shade whenever possible and avoid the peak hours of the sun between 10 am and 4 pm
- Drink plenty of water to avoid heat-related illnesses
- Be aware of the invisible sun which is the sun on a cloudy or outcast day. It is easy to think that a sunburn won't develop because of cooler temperatures or breezes on a cloudy day while in reality a sunburn is developing on your skin
- Limit exposure to reflective surfaces like water. UV rays can be reflected off of water and sand, so continue to practice sun protective behaviors even when in shady areas and near reflective surfaces
- Check your medications. Some medications increase sensitivity to light

Even those with the best sun safety intentions sometimes find themselves with a sunburn. If this happens, follow these steps recommended by the *Mayo Clinic* to prevent further damage to your skin and to help ease any discomfort:

- Keep it cool**.** Apply cold compresses such as a towel dampened with cool water to the affected skin. Or take a cool bath
- Keep it moist**.** Apply aloe or moisturizing cream to the affected skin. Avoid products containing alcohol, which can further dry out skin. Beware of sunburn treatment products containing anesthetics, such as benzocaine. There's little evidence that these products are effective. In some cases, they may even irritate the skin
- Leave blisters intact. If blisters form, don't break them. You'll only slow the healing process and increase the risk of infection. If needed, lightly cover blisters with gauze
- Take an over-the-counter pain reliever. If needed, take anti-inflammatory medication such as aspirin or ibuprofen according to the label instructions until redness and soreness subside. Don't give children or teenagers aspirin. It may cause Reye's syndrome, a rare but potentially fatal disease
- Treat peeling skin gently. Within a few days, the affected area may begin to peel. This is simply your body's way of getting rid of the top layer of damaged skin. While your skin is peeling, continue to use moisturizing cream

Consult a doctor for sunburn treatment if:

- Severe sunburn covers a large portion of your body with blisters
- Sunburn is accompanied by a high fever or severe pain
- Severe sunburn doesn't begin to improve within a few days

If heat exhaustion occurs after being in the sun for prolonged periods of time or overexerting yourself in the heat of the day, cool body temperatures immediately with cool water, rest and a cool shower. However, if a more serious condition occurs after being in the sun such as heat stroke, immediately seek medical attention and follow these rules given by the *Mayo Clinic*:

- Move the person out of the sun and into a shady or air-conditioned space
- Call 911 or emergency medical help
- Cool the person by covering him or her with damp sheets or by spraying with cool water. Direct air onto the person with a fan or newspaper
- Have the person drink cool water or other nonalcoholic beverage without caffeine if he or she is able

Module 4: Swimming Safety

Nearly every year the Air Force suffers a few drownings and the mishap locations vary from rivers, lakes and oceans to pools. Some of the drowning victims are sober, whereas others are impaired by alcohol. Tragic water accidents happen quickly. The most common reason for water mishaps is a lack of safety knowledge.

A recent *American Red Cross* survey shows that almost half the adults surveyed on water safety say they've had an experience where they nearly drowned, and one in four know someone who has drowned. While over 90% of families with young children will be in the water at some point this summer, almost half (48%) plan to swim in a place with no lifeguard. With so many planning to be in, on or near the water, it is important to follow the basics of water safety; maintain constant supervision of children and get trained!

Water Safety Tips recommended by the *American Red Cross*:

- Swim in designated areas supervised by lifeguards
- Always swim with a buddy; do not allow anyone to swim alone
- Ensure that everyone in the family learns to swim well. Enroll in swimming instruction courses
- Never leave a young child unattended near water and do not trust a child's life to another child; teach children to always ask permission to go near water
- Have young children or inexperienced swimmers wear U.S. Coast Guard-approved life jackets around water, but do not rely on life jackets alone

CASE STUDY 1: A 23 year old SSgt went to the lake with his friends to enjoy camping, boating and swimming. After consuming alcohol, the SSgt and three friends decided to go swimming after dark. After returning to shore, the friends noticed the SSgt was missing. Search and Rescue crews discovered the body of the SSgt at the bottom of lake the next day. His blood alcohol content was 0.20.

BOTTOM LINE: Swimming safety can be outlined in a few key points:

- Wingman Up – swim with a Wingman every time. Even experienced swimmers have drowned. If you are with someone they will be able to help you out
- Know Your Limits – Don't overextend yourself. Take breaks and don't get fatigued far from shore
- Swim in Safe Areas – A lifeguard can make the difference between life and death
- Alcohol Impairs – Please don't drink and swim

Module 5: Boating Safety

Although boating does not account for many mishaps in the Air Force, the potential for injury or death remains a concern.

Boats are a fun resource for both transportation and recreation but they can be dangerous if basic safety guidelines are not followed.

- Every boat outing should start with a basic assessment of the boat's condition, especially checking for loose objects or exposed, sharp edges. This is especially important because footing can be unsteady while on the boat in the water, so checking the boat before leaving shore will help prevent potential injury. Swim in Safe Areas. A lifeguard can make the difference between life and death
- It is important to make sure the boat is not overloaded so check for weight and passenger capacity
- Make sure there is a life jacket for every passenger on the boat and extras to use in case of an emergency
- Check weather reports before going out for the day. High winds or storms can roll in quickly and catch you off guard
- Be sure to have a gas fuel reserve in case of emergency or if you get lost. Fueling stations and marinas are not always available
- Always tell someone where you are going and when you plan on returning to shore
- Be familiar with the anchoring procedures for the boat
- When the vessel has reached a complete stop, anchors should be lowered, not thrown

CASE STUDY: A 24 year old SSgt was out with two friends enjoying an afternoon of boating. While the boat was anchored, the SSgt decided to dive head first into the water. He struck his head on the bottom and fractured his neck resulting in permanent paralysis. The SSgt's blood alcohol content was 0.17.

Bottom line:

- Take a boating course
- Know your boat's load limit, and don't exceed it. A safe boat is a well-equipped boat. Always carry the necessary safety gear and know how to use it
- Knowing how to swim just makes good sense if you spend time on the water
- Keep lifejackets visible and accessible and never make someone feel uncomfortable if they choose to wear one
- Remember, while a drink or two can relax you and make your day more enjoyable, it may also slow your reaction time, reduce your coordination and increase your susceptibility to hypothermia
- If diving from a boat, know how deep the water is

Water Safety Learned the Hard Way

Lt Col Nate “A+12” Allerheiligen

Commander, 50th Airlift Squadron

On 1 Nov 2008, I was enjoying an unseasonably warm day at Heber Springs reservoir with my family and some dear friends. The water temp was still in the upper 70’s, so it was a great day to be on the lake. We started the day with some boating on the pontoon boat, with our friends riding on their jet skis. After awhile, they invited me to take one for a spin. Not having a lot of experience on small powered watercraft, I took it easy at first, keeping my distance from other boats & remaining vigilant of those around me. Later on, I took my younger son on my lap for a spin while my older son, 11 at the time, was riding the other jet ski. He had ridden several times before and was conscientious and careful in how he rode. We were having a really nice time and enjoying the day and the fun together.

At one point, I came up behind my son and was getting too close to him, so I headed off in a wide sweeping left turn to get some distance from him while he headed off to the right. My young son was “helping” me steer and run the throttle. As I looked over my shoulder for the other rider, I couldn’t see him, so I thought we were safe to keep turning. Spray got in my eyes for a moment as we rolled out of the turn and then I saw him.

Directly ahead of me, directly in my path, was my son on a collision course. We were maybe 50 yards apart and each doing 20 kts or more at each other. I barely had time to have any reaction, so I did my best to steer away without capsizing or stopping directly in his path. Unfortunately, he kept turning slightly left into my path and we collided. My boat went up and over the left front of his, flying 2-3 feet above the water, and stopped about 50-60 yards away.

I immediately turned around and thought for a moment that he was OK. He was sitting erect on his craft with his hands by his side. Then it happened. He turned to the right, almost as if on purpose, and fell into the water face first. That image will haunt me forever.

At that moment, instinct kicked in and I instantly jumped into the water and began a life-saver crawl to him. It seemed to take forever to reach him, the whole time his face was in the water. I instantly noticed the blood in the water as I turned him over. Praise God, he began to breath and did the “funky chicken”—a series of spasms common when a person who has blacked out comes back to conscientiousness. He had a huge wound above his left ear that was bleeding profusely. I didn’t have time or opportunity to do any more triage, so I headed back to the boat. No one else was in sight around us and we were exactly in the middle of the lake with over ½ mile swim in any direction to reach shore.

Fortunately, he was wearing a vest style life-preserver and was floating without effort. I grabbed the back of his vest and began pulling him back to my craft where my other son was patiently and quietly waiting. My injured son was responsive to my voice and could move his arms—he even tried

to help swim. With his help, I was able to get him back onto my craft, get the motor started, and the 3 of us raced back to shore.

When we reached shore, I helped him into a prone position on the concrete, secured his head and neck while applying direct pressure onto his head wound with my own shirt. By then, our friends had already called for an ambulance. The ambulance arrived quickly and took him to the local hospital, which was less than 10 minutes away.

He was evaluated in the local hospital and found to not have any significant head, neck, or back injuries. The cut on his scalp was more than they wanted to handle there and he had lost a lot of blood, so they med-evac'ed him to Arkansas Children's Hospital via helicopter. By the time we drove the 75 minutes to the hospital, he was lucid, responsive, and doing well. He received 11 staples to close the head wound and was released that night.

There are several lessons to be learned by this life-changing experience, but the paramount discovery is that life-preservers save lives! Without the jacket, he may have very-well sunk beyond my reach before I could get to him. There is no way that I could have pulled my son 75 yards through the water and onto that jet ski had he not been wearing a jacket. A big kid for his age, he was 5' 7" and 160 pounds at that time. Likewise, had I not had my jacket on, I likely would have drown from exhaustion trying to bring him back to safety.

I also learned the importance to carefully and conservatively following all the safety precautions in the owner's manual of the water craft. As vigilant as I was, the added distraction of having my younger son in my lap made the maneuvers we were doing dangerous and tragic.

Finally, water rescue, first aid, and CPR courses are a must! Knowing how to properly save and treat a loved one, or even a stranger, is a critical skill that everyone should endeavor to gain.

Module 6: Barbeque and Fireworks Safety

With warmer weather comes family gatherings and cooking outside on a charcoal or gas grill. Barbequing is a relatively harmless event. However, if safety rules and respect for the dangers of fire are not followed, mishaps can and do occur. Burns, scaldings, soft tissue injuries, abrasions and cuts are just a few of the types of accidents that can occur during grilling.

When cooking outdoors with a gas grill be sure to follow these recommendations from the *National Propane Gas Association* to ensure proper barbeque safety:

- Always use the grill outdoors in a well-ventilated area. Always follow all the manufacturer's instructions and keep written materials and manuals in a safe, accessible place
- Make sure the grill burner controls are turned off and keep the cylinder valve closed when not in use
- Make sure the gas grill is shut off and completely cooled before covering it after use
- Always use or store cylinders in an upright, vertical position. Be sure to store them outdoors away from sources of ignition
- When a cylinder is refilled, have the supplier check for dents, damage, rust or leaks
- After filling, take the cylinder home immediately. While transporting, keep the vehicle ventilated with the cylinder valve closed and plugged or capped
- When a grill is not in use, cover disconnected hose-end fittings and burner air intakes with small plastic bags or obtain protective fitting caps from the propane gas retailer to keep out dirt, insects and moisture
- Before lighting a propane gas grill burner, use a leak-detection solution to check all connections for tightness. Contact a local propane gas retailer to obtain the leak-detection solution and instructions on how to use it
- If there is a significant and uncontrollable release of gas or fire, call the fire department immediately and move all people and pets away from the unit

These are their recommendations of what **NOT** to do when grilling outdoors with a propane grill:

- Do not bring cylinders indoors or into an enclosed space such as a garage
- Do not smoke while handling the propane cylinder
- Do not leave the cylinder in a vehicle
- Do not use matches or lighters to check for leaks
- Do not allow children to tamper or play with the cylinder or grill
- Do not use, store or transport a cylinder where it could be exposed to high temperatures

When using a charcoal grill for outdoor barbeques, the *Hearth, Patio and Barbecue Association* recommends the following precautions:

- When using charcoal briquettes or wood chunks, form a pyramid and douse with lighter fluid. Wait until fluid has soaked in before lighting
- Cap lighter fluid immediately and place a safe distance from grill
- Never add lighter fluid to coals that are already hot or warm
- Never use gasoline, kerosene or other highly volatile fluids as a starter. They can explode
- As an alternative to lighter fluid, use an electric, solid, metal chimney or other starter specifically made for lighting charcoal briquettes or wood chunks
- Unplug and remove a hot starter with caution and be careful where you put it. Always cool starter completely before storing
- Never use an electric starter in the rain and/or when standing on wet ground
- When using instant light briquettes, do not use lighter fluid, electric, solid or metal chimney-style starters. Do not add more instant light briquettes once the fire has been lit. Add only regular charcoal briquettes if more are needed
- Once the grill is lit, do not touch briquettes or wood chunks to see if they are hot. Keep grill uncovered until ready to cook
- Keep vents open while cooking. Charcoal briquettes and wood chunks need oxygen to burn
- Allow coals to burn out completely and let ashes cool at least 48 hours before disposing
- Dispose of cold ashes by wrapping in heavy-duty aluminum foil and placing in non-combustible container. Be sure no other combustible materials are nearby
- If you must dispose of ashes before completely cooled, place them in heavy duty foil and soak with water completely before disposing in non-combustible container

CASE STUDY: #1. A 29 year old SSgt was preparing to barbeque with charcoal. He discovered he was out of lighter fluid so improvised by using a partially filled coffee cup of gasoline. He let the gasoline soak in the charcoal for a few moments, and then tossed a match on the charcoal. The ensuing flame burst caused skin burns bad enough the SSgt required skin grafts.

#2. A 21 year old A1C was preparing to barbeque with charcoal. She discovered she was out of lighter fluid so she tried to start the charcoal with newspapers. When this didn't work, she got some gasoline from the garage. She poured gasoline on the charcoal straight from the gas container, when the smoldering charcoals ignited and sent flames up the stream of gas. The A1C dropped the gas container and was on fire herself. She dropped, rolled and put the flames out with assistance. Her burns required skin grafts.

Bottom line: Gasoline is not an appropriate starter for charcoal. Respect the fire and ensure the location of the barbeque grill does not present a hazard to personnel or facilities.

The fourth of July is always a fun time to gather with family and friends to acknowledge the nation's birthday and fireworks are a wonderful way to celebrate the holiday, but they must be used carefully. The *National Council on Fireworks Safety* urges consumers to be smart before, during and after consumer fireworks displays.

Before:

- Choose and open area away from spectators, homes, buildings and dry vegetation
- Use a garden hose to wet down the area before firing

During:

- As each device burns out, soak it using a hose or a bucket of water

After:

- Place all used items in a covered, fireproof container and leave it outside away from homes and buildings

For sparklers:

- Place all used items in a covered, fireproof container and leave it outside away from homes and buildings
- Children under the age of 12 should not use sparklers without very close adult supervision
- Always remain standing while using sparklers
- Never hold a child in your arms while using sparklers
- Never hold or light more than one sparkler at a time
- Sparklers and bare feet can be a painful combination. Always wear closed-toe shoes when using sparklers
- Sparkler wires and sticks remain hot long after the flame has gone out. Be sure to drop the spent sparkler directly in a bucket of water
- Never hand a lit sparkler to another person
- Always stand at least 6 feet away from another person when holding a sparkler

Please treat fireworks with respect, read all of the cautions and warnings and use common sense. Lighting fireworks indoors, throwing them from automobiles and lighting multiple devices at the same time can lead to accidents and are not how fireworks are intended to be used. Always obey all local laws pertaining to the use of fireworks.

CASE STUDY: A 21 year old A1C and a group of fellow military members were setting off fireworks. The A1C was holding a "three-ball artillery launcher" firework in his hand while another person lit the fuse. A round detonated inside the launcher causing a severe injury to the A1C's hand which resulted in amputation. The manufacturer's instructions and warning sticker stated not to hold the launcher in your hands. Alcohol was a factor in this mishap.

BOTTOM LINE:

- If you see someone misusing fireworks, stop them. Show them the correct way to use consumer fireworks and do not ever use professional fireworks or illegal explosives. Do your part and everyone will be safer
- Fireworks and alcohol do not mix
- When all else fails, use common sense. Respect fireworks and sparklers as the great tradition they are, but also respect the fact that they must be used with caution

Module 7: Mow Smart

Mowing the yard is a peaceful task for some and a necessary evil for others. Although infrequent, lawn mowing injuries are normally severe when they do occur. According to the *U.S. Consumer Product Safety Commission*, yearly injuries (treated at emergency rooms) from lawn mowers total more than 70,000 annually.

Herb Willcutt, the Extension Professor and Agricultural Engineer in the Department of Agricultural and Biological Engineering at Mississippi State University states, "The revolving blade of a lawn mower can throw objects at speeds of 200 miles per hour or the length of a football field in 1 second. There is no time to dodge thrown objects. It takes an adult about two-thirds of a second to react to danger and young children may react slower."

These are the following guidelines that he lays out when preparing to mow, mowing and storing the mower when finished:

Preparing to Mow
Before you mow, pick up objects lying on the lawn. Toys, tools, tires, car parts, cans, bottles, rocks, sticks, twigs and limbs are hazards to children playing on the lawn even when a mower is not operating. These items also present great danger to the operator, bystanders and the mower when mowing begins.

Mental Ability
Safe mowing requires knowledge, judgment and maturity. To operate a lawn mower safely, you must have the mental ability to do the following:

- Read the operator's manual
- Understand how to operate the equipment
- Follow the manufacturer's safety instructions
- Make informed decisions in an emergency
- Accept the responsibility to protect trees and shrubs, pets, humans, automobiles and homes in the area from danger or damage from the mower

Physical Ability
Some mowers require great physical strength to operate the controls. Young children may not be able to reach the controls or move them to their full range of operation. Push mowers may require more physical effort than some children can sustain for long periods. Mower operators must have the physical ability to do the following:

- Reach and operate the controls
- Reach the handles
- Push a push mower

Dressing Safely for Mowing

Clothing protects the mower operator from thrown objects and sun exposure. Earplugs protect hearing from the engine's and blades' loud noises. Safety glasses or goggles protect the eyes from dust, dirt, trash and small rocks thrown by the blade and the engine-cooling fan. Never wear anything that can be caught in the machine such as loose clothing or jewelry. Always tie back long hair. Following is a checklist of appropriate clothes and supplies to use to protect yourself while mowing:

- Long pants
- Close-fitting clothes
- Sturdy shoes
- Safety glasses
- Sun protection
- Earplugs

Handling Gasoline

Gasoline is extremely explosive. One gallon of gasoline has the explosive power of 33 sticks of dynamite. Flash fires can occur when refilling mowers that are hot or that are still operating. Careless smokers also can start flash fires. Remember the following rules for handling gasoline safely:

- Fill before starting
- Don't spill when you fill
- Never refill a hot engine
- Never remove a gasoline cap with the engine operating. Store gasoline in an approved and labeled container, never in food containers
- Do not smoke near gasoline
- Do not get near fires with gasoline
- Never store gasoline in a home or a utility building, especially near gas hot water heaters

Operating the Mower Safely

Remember the following rules when operating a mower:

- Always push, not pull, a push mower
- Never mow when the grass is wet
- Always keep feet from beneath the mower
- Push a push mower across a slope
- Always keep feet from beneath the mower
- Operate a riding mower up and down steep slopes
- Never leave a mower unattended with the engine operating

Parking the Mower

It is critical for safety that you to park the mower properly when the job is complete. Small children find mowers fascinating and like to mimic older siblings and parents. Children may start a mower while copying others and may be unable to stop the mower before injuring someone or causing property damage. Attachments left in a raised position can pinch or mash feet and hands, or they can even crush an infant. Dry grass and debris can easily ignite from a hot muffler. Children may remove gas tank caps and try to look in. Following are safe practices for parking your mower after using it:

- Lower raised components
- Stop the engine
- Remove the key and put it in a secure place
- Remove all grass and debris
- Service and clean as needed
- Lock the storage room or garage

Maintaining the Equipment

Many injuries occur while the mower is being serviced or repaired. Never touch a hot engine, blades or other moving parts. Always stop the engine before making adjustments to the cutting height or making repairs. Before you use the blade or pull rope to turn the engine while making repairs, remove the spark plug wire; this practice will prevent the accidental starting of the engine. Removing the battery cable on an electric start mower prevents accidental starting. In order to maintain your lawn mower safely, you must know how to do the following:

- Remove the spark plug wire to prevent accidental starting
- Check or add the correct amount of oil
- Fill the tank while not spilling the fuel
- Check and adjust tire pressures, belts cutting height and blades

CASE STUDY: A 28 year old SSgt was mowing his yard with a push mower, while at the same time his son was riding a battery powered mini-scooter around the yard. When the side discharge of the mower became clogged with grass, the SSgt held down the "cut-off" lever (so the engine remained running) with his left hand while he reached with his right hand to free the grass clog. Simultaneously, his son was riding his mini-scooter toward some hedges with sharp branches, so the SSgt began yelling at his son to turn away from the hedges. The SSgt lost situational awareness with his right hand and it entered the mower blade area resulting in amputation to a finger.

Bottom Line:

- Only use a power mower with a control that stops the mower if the handle is let go. This control should never be disconnected
- Do not allow children younger than 14 to use riding mowers. Do not allow children younger than 12 to use walk-behind mowers
- Make sure that sturdy shoes are worn while mowing

Module 8: Outdoor Fire Safety

With the warmth of the summertime sun comes drier weather and even drier vegetation. During the summer months wildfires can rage out of control. So it is imperative to use precautions when burning anything outdoors during the dry summer months. The *US Forest Service* recommends the following precautions when burning outdoors:

Debris

Check local laws on burning. Some communities allow burning only during specified hours while others forbid it entirely. Check the weather; don't burn on dry, windy days. Consider the alternatives to burning. Some types of debris, such as leaves, grass and stubble , may be of more value if used for compost. Household items such as plastics, glass, paper and aluminum cans can be recycled or hauled to a local sanitary landfill. If you must burn debris, do it safely.

Household Trash

If you must burn trash, don't pile it on the ground. It will not burn completely and will easily be blown around. Local fire officials can recommend a safe receptacle for burning trash. It should be placed in a cleared area, away from overhead branches and wires. Never attempt to burn aerosol cans; heated cans will explode. Flying metal from an exploding aerosol might cause an injury. Burning trash scattered by such an explosion has caused the spread of many fires.

Agricultural Residue and Forest Litter

Be sure you are fully prepared before burning off your field or garden spot. To control the fire, you will need a source of water, a bucket and a shovel for tossing dirt on the fire. If possible, a fire line should be plowed around the area to be burned. Large fields should be separated into small plots for burning one at a time. Be sure to stay with your fire until it is out. Before doing any burning in a wooded area, contact your local forester. The forester will weigh all factors, explain them to you and offer technical advice.

Lanterns, Stoves and Heaters

Cool all lanterns, stoves and heaters before refueling. Place them on the ground in a cleared area and fill them. If fuel spills, move the appliance to a new clearing before lighting it. Recap and store flammable liquid containers in a safe place. Never light lanterns and stoves inside a tent, trailer or camper. If you use a lantern or stove inside a tent or trailer, be sure to have adequate ventilation. Always read and follow instructions provided by the manufacturer.

Spark Arresters

All types of equipment and vehicles are required to have spark arresters. Chain saws, portable generators, cross country vehicles and trail bikes require spark arrestors if used in or near grass, brush or a wooded area. To make sure that the spark arrester is functioning properly, check with the dealer or contact your local Forest Service or State Forestry Office.

Module 9: Watch out for Motorcycles, Scooters and Mopeds

According to the *Motorcycle Safety Foundation*:

> There are over 4 million motorcycles registered in the United States. The popularity of this mode of transportation is attributed to the low initial cost of a motorcycle, its use as a pleasure vehicle and for some models, the good fuel efficiency. Motorcycle fatalities represent approximately five percent of all highway fatalities each year, yet motorcycles represent just two percent of all registered vehicles in the United States. One of the main reasons motorcyclists are killed in mishaps is because the motorcycle itself provides virtually no protection in a mishap. For example, approximately 80 percent of reported motorcycle mishaps result in injury or death; a comparable figure for automobiles is about 20 percent.
>
> An automobile has more weight and bulk than a motorcycle. It has door beams and a roof to provide some measure of protection from impact or rollover. It has cushioning and airbags to soften impact and safety belts to hold passengers in their seats. It has windshield washers and wipers to assist visibility in the rain and snow. An automobile has more stability because it's on four wheels and because of its size, it is easier to see. A motorcycle suffers in comparison when considering vehicle characteristics that directly contribute to occupant safety. What a motorcycle sacrifices in weight, bulk, and other characteristics is somewhat offset by its agility, maneuverability, ability to stop quickly and ability to swerve quickly when necessary.

An article in the *Barriere Star Journal* dated 14 February 2011 states that, "In a collision, motorcyclists are seven times more likely to be killed than other road users. Young drivers tend to be involved in more motorcycle-related mishaps. However, there is an emerging trend that riders in their 40's and 50's are increasingly becoming the fatal victims of this type of mishap."

Following are some safety tips for both motorcycle riders and vehicle drivers:

Safety tips for riders:

Make yourself visible

- Never assume other drivers see you
- Wear bright and reflective protective gear
- Make sure all your lights are working before every trip

Wear an approved helmet and protective gear

- Choose a bright colored helmet that meets the recognized safety standards, such as DOT or Snell Memorial Foundation
- Wear protective gear such as a motorcycle jacket, pants, gloves and boots. These provides better protection than street clothes

Improve your traction

- Keep your tires properly inflated and in good working condition
- Scan the road ahead for potential hazards
- Avoid riding in the center of the lane where oil and other fluids can gather

Communicate

- Whenever possible, let the motorcycle operator see you. They may not see you, or they may misjudge your distance and speed
- Watch for other vehicle's front wheel movements and signal lights
- Stay out of other driver's blind spots

Intersection and signaling

- One of the most common types of intersection mishaps occurs when oncoming vehicles turn left in front of motorcyclists. When you see oncoming traffic signaling to turn left, reduce your speed and adjust your lane position to avoid a potential collision.
- Signal well in advance when you change lanes or turn. Check your mirrors and make sure you have plenty of space behind so the vehicle behind can slow down for you safely
- Slow down on curves
- Many motorcycle mishaps occur in curves and often involve the motorcyclist going off the road or across the center line. To avoid this, plan your trajectory prior to reaching the curve and adjust your lane position and speed. Always look where you want to go

Training

- If you are a new rider or have not been riding for a long time, get professional riding training to learn/refresh the skills of handling a motorcycle, emergency braking, collision avoidance, lane position, etc.

Safety tips for drivers:

Always watch out for motorcyclists

- Scan the road carefully for motorcycles when you are about to enter an intersection
- Watch for oncoming motorcycles that may be turning left
- Watch the rider for clues as motorcycles signals are hard to see
- Don't share a lane. Never drive beside a motorcycle in the same lane

Communicate

- Whenever possible, let the motorcyclist know that you have seen them
- Read the vehicle language. Don't assume the motorcycle is turning left because it is in the left part of the lane

Following a motorcycle safely

- Leave at least three seconds between you and the motorcycle in front of you, and longer when the weather/road conditions are less than ideal
- Allow plenty of space when passing a motorcycle. Your vehicle may throw dirt or water in the rider's face and pose a serious hazard to the rider.

“Inattentional blindness” studies shed light on car-motorcycle accidents.

Your headlights are on and you're wearing a brightly colored helmet and clothing. The driver of the oncoming car looks right in your direction, and then he turns left into your path anyway. Later, he tells the police officer: "I never saw the motorcycle." How could that be? Just ask all the people who didn't see the woman in the gorilla suit.

Allow me to explain.

Recent scientific studies focusing on a phenomenon known as "inattentional blindness" may help us understand why car drivers often end up causing accidents with motorcycles they "didn't see."

Daniel Simons and Christopher Chabris at Harvard University conducted one particularly interesting study. In it, subjects watched a video comprised of two teams, with three people each. One team was in white shirts and the other was in black passing an ordinary basketball among themselves.

Some subjects were told to count the number of passes by either the team wearing white or the team wearing black (the "easy task"). Others were told to keep separate mental counts of bounce passes and aerial passes (the "hard task").

During the video, a woman carrying an umbrella walks through the scene. In another version, a woman in a full gorilla suit walks through. In a third video, the woman wearing the gorilla suit stops in the middle of the scene, thumps her chest, and walks off.

Here's where the scary part starts: Forty-six percent of the subjects did not see the umbrella woman or the gorilla in the first two versions. In the third version, 50 percent didn't notice the gorilla at all.

Basically, people concentrating on one task do not see something unrelated because they aren't expecting it, says Simons, an associate professor of psychology at Harvard.

"The intuition people have is that something different like that will jump out at them and they will notice it," adds Simons. "But their intuition is wrong." Simons believes it is not a stretch to apply the same thinking to car drivers encountering motorcycles on the street. In a sea of cars, a motorcycle could be that "something different" the driver does not expect, and therefore does not see.

The key, he says, is attention. In the Harvard study called, "Gorillas in our Midst," the subjects engaged in the "hard task" were less likely to notice the umbrella woman or the gorilla than were subjects performing the "easy task." The more their attention was focused elsewhere, the less likely they were to notice unexpected occurrences.

Simons notes that some of the subjects in the study did not believe a gorilla actually walked through the scene until they were shown the tape again. They were astounded they missed something that was so obvious on second viewing.

On the surface, the study seems to be bad news for safety-minded motorcyclists. It suggests that no matter what we do, some inattentive drivers will still miss us. And it has obvious implications for those concerned with the whole subject of driver distractions, including cell phone use.

Meanwhile, a study by researchers at Sussex University in England found that experienced drivers were actually less likely than inexperienced drivers to look for potential hazards in unexpected locations. The study, which

analyzed eye movements of drivers watching video clips of traffic situations, appears to indicate that years of driving train someone to look for the expected, not what is actually there.

But there are useful lessons for all of us that can be gleaned from these "inattentional blindness" studies.

For instance, although being conspicuous is no guarantee you'll be seen, Simons reports that it may improve your odds on the road. He cites other studies in which subjects were watching black-and-white objects on a screen and an unexpected red object appeared. Even with the color contrast, about 30 percent did not see the red object. But at least the other 70 percent did.

Simons plans to join the faculty at the University of Illinois next year and hopes to do further research more directly related to traffic safety by using the university's driving simulator.

But on the basis of the results so far, Simons suggests that while nothing can guarantee you'll be seen by car drivers, such attention-getting equipment as modulating headlights (legal in most states), along with brightly colored clothing and helmets, may help. "The goal," he says, "would be to make things more distinctive."

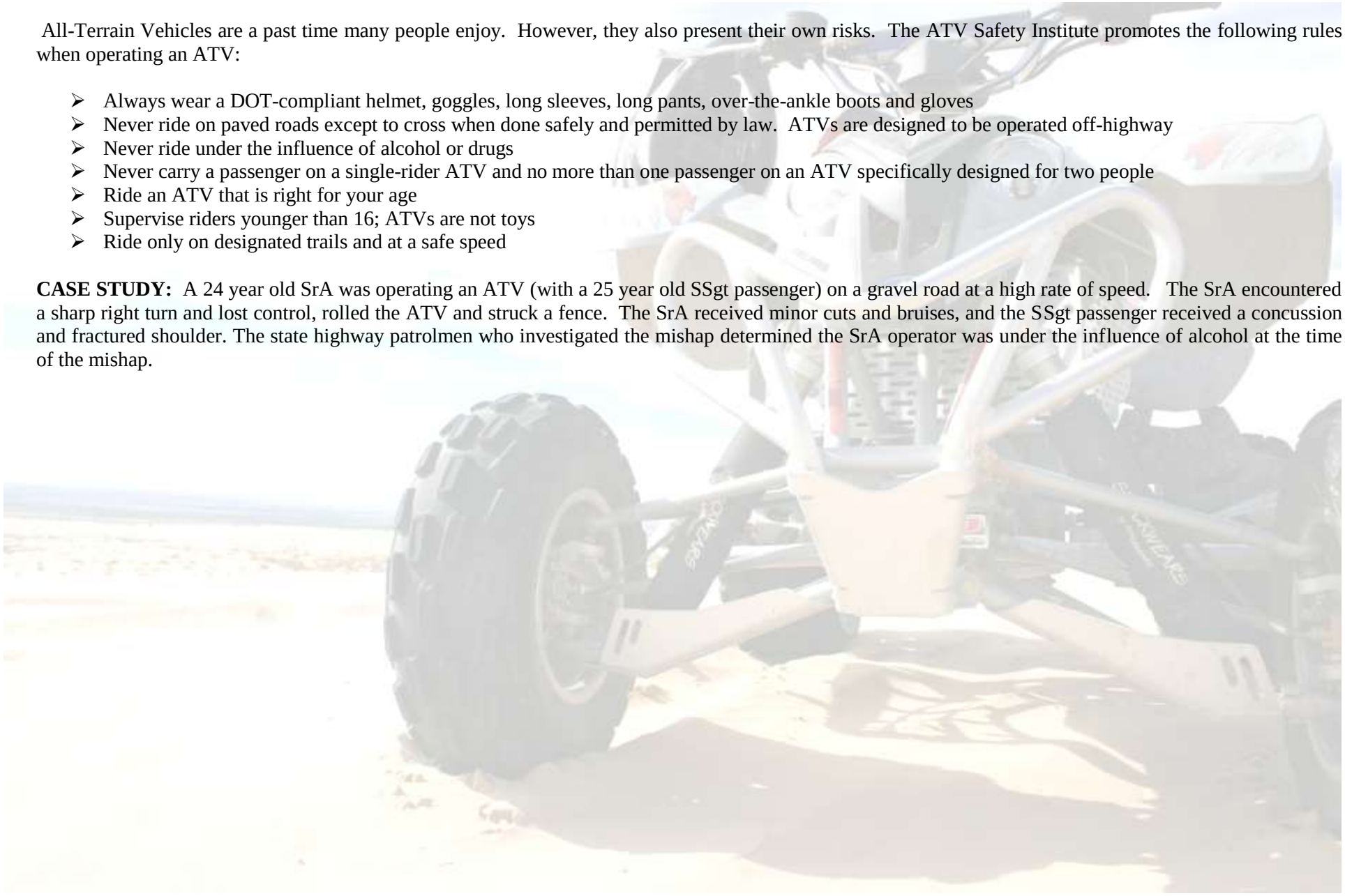
Remember, though, just because the driver is looking right at you, doesn't mean he or she really sees you. After all, half the people never saw the gorilla.

Module 10: All-Terrain Vehicle (ATV) Safety

All-Terrain Vehicles are a past time many people enjoy. However, they also present their own risks. The ATV Safety Institute promotes the following rules when operating an ATV:

- Always wear a DOT-compliant helmet, goggles, long sleeves, long pants, over-the-ankle boots and gloves
- Never ride on paved roads except to cross when done safely and permitted by law. ATVs are designed to be operated off-highway
- Never ride under the influence of alcohol or drugs
- Never carry a passenger on a single-rider ATV and no more than one passenger on an ATV specifically designed for two people
- Ride an ATV that is right for your age
- Supervise riders younger than 16; ATVs are not toys
- Ride only on designated trails and at a safe speed

CASE STUDY: A 24 year old SrA was operating an ATV (with a 25 year old SSgt passenger) on a gravel road at a high rate of speed. The SrA encountered a sharp right turn and lost control, rolled the ATV and struck a fence. The SrA received minor cuts and bruises, and the SSgt passenger received a concussion and fractured shoulder. The state highway patrolmen who investigated the mishap determined the SrA operator was under the influence of alcohol at the time of the mishap.



Module 11: PMV- 4 Safety

Private Motor Vehicle mishaps are the most severe threat to most of our safety. Nearly 40,000 Americans die each year on our nation's highways. Usually, between forty to fifty Airmen die each year in PMV mishaps.

CASE STUDY: A 41 year old Major was operating his pick-up truck at approximately 70 mph pulling two trailers in tandem (a camper trailer/toy hauler and a utility trailer). Both trailers combined did not exceed the tow capacity of the pick-up truck. A very strong gust of wind caused the Major to lose control, and the pick-up and tandem trailers rolled over. The Major received neck injuries and his passengers were also injured in the mishap. Alcohol was not considered a factor in the mishap.

BOTTOM LINE:
Top 10 Tips for Driver Safety courtesy of "How Stuff Works"
(http://auto.howstuffworks.com/car-driving-safety/accidents-hazardous-conditions/10-safe-driving-tips10.htm)

1. **Keep Your Vehicle Safe**
2. Practice Defensive Driving
3. **Watch Out for the Other Guy**
4. Don't Follow Too Closely
5. **Be Extra Careful in Bad Weather**
6. **Wear Your Seatbelt**
7. Don't Drive Drowsy
8. **Don't Speed**
9. Avoid Distractions
10. **Don't Drink and Drive**

Module 12: Camping Safety

There is nothing quite like camping in the summertime. Over the past century, more and more people have headed into the great outdoors for rest, relaxation, adventure and restoration. In the past five years alone, over one-third of the adults in the United States have gone on a camping trip.

No matter what level of camping comfort you enjoy, there are always risks and hazards. On average, there are over 30,000 injuries treated in emergency rooms each year and doctors treat an additional 75,000 camping-related injuries per year.

The following are camping tips from *Camp Safe Organization* to help make your camping experience a safe one:

Arrival on Site:

- Always plan ahead. Arrive at your campsite with plenty of daylight time remaining to scout the campsite for hazards, unpack and set up camp
- Stay away from areas that may flood easily or get muddy if it rains
- Be cautious. Look for sharp objects, broken glass, or other foreign objects
- Avoid areas with rocks or other hazardous terrains
- Watch for bees, ants and other insects, along with poison ivy and other poisonous plants
- Avoid areas with low tree branches or dead trees; these could easily fall during gusts of wind
- Look for an area with bushes or shrubs to block cold winds or provide shade in the heat
- Pick an area with level ground and enough space for all your belongings
- Pitch your tent away from your campfire
- Build your campfire in a contained area to prevent it from spreading

Clothing Safety:

- Wear layers of clothing instead of one heavy piece. You'll be warmer
- Wearing layers will also allow you to adjust to different temperatures by adding or removing layers
- Waterproof clothing will prepare you for different weather conditions
- Shoes and boots must be comfortable for walking to prevent blisters
- Tuck pant legs into your socks and shoes to keep insects and ticks from getting underneath clothing
- A cap or hat is a good shield to protect your head from too much sun

Weather when nights are cold:

Dampness and cold send many cold-weather campers searching for a motel. A little forethought and common sense will keep any sleeping bag dry. Buy a quality bag with a water-repellent, windproof shell or cocoon yourself by slipping the bag into a bivouac (bevy sack), which is waterproof. Remember to:

- Choose a dark colored sleeping bag. It will absorb the sun's warmth when you air-dry it the next morning
- Change into dry clothes , preferably polypropylene underwear, before retiring for the night

If you plan to spend several consecutive nights in sub-zero weather, add a vapor barrier liner of nylon cloth, purchased by the yard from a fabric or camping supply stores. Bags that don't get a chance to dry out in extremely cold weather collect body moisture in their insulation. This moisture freezes and can literally add pounds of ice to an untreated bag.

Another alternative is making a vapor barrier liner by wearing a plastic garbage bag over your long underwear or to wear your raincoat to bed. To protect extremities, wear empty sandwich bags or bread sacks over hands and feet. Please remember to keep plastic bags away from small children.

Food:

- Keep hot food hot and cold food cold
- Be clean when preparing, eating and storing food
- Wash/clean hands, utensils and pots when using
- Handle meat correctly
- Make sure drinking water is safe to consume

Camping Gear:

- Always read any manuals before using equipment
- Improper use of any gear always creates a risk or hazard
- Know your equipment and perform regular maintenance checks
- Know the intended uses for your gear
- Read all safety-warning labels on your equipment
- Never use portable radiant gas heaters in an enclosure
- When using propane cylinders, always store cylinders upright and never use or store a propane cylinder indoors

Avoiding Bears:

- Don’t hike alone or after dark. Whistle, sing or otherwise make loud noises when traveling through known bear country. A bear that hears you will nearly always move off the trail
- If you see a cub, back off; never get between a cub and its mother
- Stay as clean as possible but avoid scented shampoos and deodorants and don’t sleep in the clothes you wore all day and cooked in. Instead, hang them away from camp, along with your food
- Remember that a tent affords more protection than sleeping in the open. Keep a flashlight and a noisemaker handy
- Most importantly, don’t provoke a bear by approaching the animal for photos or a better look. According to the National Park Service, if you run into a bear, avoid eye contact (which might be interpreted as a threat), talk softly and walk away, while dropping something that might distract the bear
- Finally, always remember to never keep food in your tent

Children:

- Feed children small portions rather than large meals during the day to provide energy for hiking and swimming without stomachaches
- Dressing your child in bright colored clothing makes them more noticeable
- Long pants and long sleeves will help prevent exposure to poisonous plants and insect bites

First Aid:

- Pack and carry a First Aid kit
- Before each trip, replace what is missing from your First Aid kit and check expiration dates on all medications

CASE STUDY: A 27 year old SrA was camping. When the campfire started burning out, the SrA decided to roll the log over with his foot while wearing flip-flops. An ember from the fire got caught between the flip-flop and the SrA's foot, resulting in third-degree burns. A stick was available to maintain the camp fire, but at the time of the mishap the stick was out of hand's reach.

BOTTOM LINE:

It is essential that you plan ahead for your camping trip, no matter where you go. How far in advance you plan the camping trip is up to you. In general it's a good idea to plan several weeks ahead of time. You must know where you are going, the route you are planning to take, and when you plan to return home. For safety's sake, let someone responsible know your plans and if any changes are made prior to or during the trip you must update this person.

Module 13: Ice Coolers and Food Safety

Cookouts and picnics are frequent and honored traditions of summer, a time for family and friends to gather, socialize and have fun. But summer outings can be ruined if safe food handling and preparation techniques aren't observed. Hot summer temperatures can help food-borne bacteria multiply at a rapid pace, spoiling food and causing illness.

The *Food Safety and Inspection Service* give the following recommendations for handling food when spending time outdoors:

Keep Hot Foods Hot & Cold Foods Cold
Whether you are in your kitchen or enjoying the great outdoors, there are some food safety principles that remain constant. The first is keep hot foods hot and cold foods cold. Meat and poultry products may contain bacteria that cause food-borne illness. They must be cooked to destroy these bacteria and held at temperatures that are either too hot or too cold for these bacteria to grow.

Most bacteria do not grow rapidly at temperatures below 40 °F or above 140 °F. The temperature range in between is known as the Danger Zone. Bacteria multiply rapidly at these temperatures and can reach dangerous levels after 2 hours.

If you are traveling with cold foods, bring a cooler with a cold source. If you are cooking, use a hot campfire or portable stove. It is difficult to keep foods hot without a heat source when traveling, so it's best to cook foods before leaving home, cool them and transport them cold.

Keep Everything Clean
The second principle is that bacteria present on raw meat and poultry products can be easily spread to other foods by juices dripping from packages, hands or utensils. This is called cross-contamination. When transporting raw meat or poultry, double wrap or place the packages in plastic bags to prevent juices from the raw product from dripping on other foods. Always wash your hands before and after handling food and don't use the same platter and utensils for raw and cooked meat and poultry. Soap and water are essential to cleanliness, so if you are going somewhere that will not have running water, bring it with you. Even disposable wipes will do.

Food Safety While Hiking & Camping
Sometimes you just have to get out and walk around in the solitude and beauty of our country. You may want to hike for just a few hours or you may want to camp for a few days. One meal and some snacks are all that is needed for a short hike. Planning meals for a longer hike requires more thought. You have to choose foods that are light enough to carry in a backpack and that can be transported safely.

Hot or Cold?
The first principle is to keep foods either hot or cold. Since it is difficult to keep foods hot without a heat source, it is best to transport chilled foods. Refrigerate or freeze the food overnight. For a cold source, bring frozen gel-packs or freeze some box drinks. The drinks will thaw as you hike and keep your meal cold at the same time. What foods to bring? For a day hike, just about anything will do as long as you can fit it in your backpack and keep it cold — sandwiches, fried chicken, bread and cheese, and even salads — or choose non-perishable foods.

Clean
The second principle is to keep everything clean, so remember to bring disposable wipes if you are taking a day trip.

Safe Drinking Water
It is not a good idea to depend on fresh water from a lake or stream for drinking, no matter how clean it appears. Some pathogens thrive in remote mountain lakes or streams and there is no way to know what might have fallen into the water upstream. Bring bottled or tap water for drinking. Always start out with a full water bottle and replenish your supply from tested public systems when possible. On long trips you can find water in streams, lakes, and springs, but be sure to purify any water from the wild, no matter how clean it appears.

The surest way to make water safe is to boil it. Boiling will kill microorganisms. First, bring water to a rolling boil, and then continue boiling for 1 minute. Before heating, muddy water should be allowed to stand for a while to allow the silt to settle to the bottom. Dip the clear water off the top and boil. At higher elevations, where the boiling point of water is lower, boil for several minutes.

As an alternative to boiling water, you can also use water purification tablets and water filters. The purification tablets — which contain iodine, halazone, or chlorine — kill most waterborne bacteria, viruses and some (but not all) parasites. Because some parasites — such as Cryptosporidium parvum, Giardia lamblia and larger bacteria — are not killed by purification tablets, you must also use a water filter. These water filtering devices must be 1 micron absolute or smaller. Over time purification tablets lose their potency, so keep your supply fresh. Water sanitizing tablets for washing dishes can also be purchased (just don't confuse the two). Water purification tablets, filters and sanitizing tablets can be purchased at camping supply stores.

What Foods to Bring?
If you are backpacking for more than a day, the food situation gets a little more complicated. You can still bring cold foods for the first day, but you'll have to pack shelf-stable items for the next day. Canned goods are safe, but heavy, so plan your menu carefully. Advances in food technology have produced relatively lightweight staples that don't need refrigeration or careful packaging.

Powdered mixes for biscuits or pancakes are easy to carry and prepare, as is dried pasta. There are plenty of powdered sauce mixes that can be used over pasta, but check the required ingredient list. Carry items like dried pasta, rice and baking mixes in plastic bags and take only the amount you will need.

Cooking at Camp
After you have decided on a menu, you need to plan how you will prepare the food. You will want to take as few pots as possible. Camping supply stores sell lightweight cooking gear that nest together, but you can also use aluminum foil wrap and pans for cooking.

You'll need to decide in advance how you will cook. Will you bring along a portable stove, or will you build a campfire? Many camping areas prohibit campfires, so check first or assume you will have to take a stove. Make sure to bring any equipment you will need. If you are bringing a camp stove, practice putting it together and lighting it before you pack. If you build a campfire, carefully extinguish the fire and dispose of the ashes before breaking camp. Likewise, leftover food should be burned, not dumped. Lastly, be sure to pack garbage bags to dispose of any other trash, and carry it out with you.

Use a Food Thermometer
Another important piece of camping equipment is a food thermometer. If you are cooking meat or poultry on a portable stove or over a fire, you'll need a way to determine when it is done and safe to eat. Color is not a reliable indicator of doneness, and it can be especially tricky to tell the color of a food if you are cooking in a wooded area in the evening.

When cooking hamburger patties on a grill or portable stove, use a digital thermometer to measure the temperature. Digital thermometers register the temperature in the very tip of the probe, so the safety of thin foods — such as hamburger patties and boneless chicken breasts — as well as thicker foods can be determined. A dial thermometer determines the temperature of a food by averaging the temperature along the stem and, therefore, should be inserted 2 to 2 ½ inches into the food. If the food is thin, the probe must be inserted sideways into the food.

It is critical to use a food thermometer when cooking hamburgers. Ground beef may be contaminated with E. coli O157:H7, a particularly dangerous strain of bacteria. Illnesses have occurred even when ground beef patties were cooked until there was no visible pink. The only way to ensure that ground beef patties are safely cooked is to use a food thermometer, and cook the patty until it reaches 160 °F.

Cook all meat and poultry to safe minimum internal temperatures:

- Beef, veal, and lamb steaks, roasts, and chops may be cooked to 145 °F
- All cuts of pork to 160 °F
- Ground beef, veal and lamb to 160 °F
- All poultry should reach 165 °F
- Heat hot dogs and any leftover food to 165 °F.
- Be sure to clean the thermometer between uses

Keeping Cold

If you are car camping (driving to your site), you don't have quite as many restrictions. First, you will have the luxury of bringing a cooler. What kind of cooler? Foam chests are lightweight, low cost and have good cold retention power. But they are fragile and may not last through numerous outings. Plastic, fiberglass or steel coolers are more durable and can take a lot of outdoor wear. They also have excellent cold retention power, but, once filled, larger models may weigh 30 or 40 pounds.

To keep foods cold, you will need a cold source. A block of ice keeps longer than ice cubes. Before leaving home, freeze clean, empty milk cartons filled with water to make blocks of ice or use frozen gel-packs. Fill the cooler with cold or frozen foods. Pack foods in reverse order. First foods packed should be the last foods used. (There is one exception: pack raw meat or poultry below ready-to-eat foods to prevent raw meat or poultry juices from dripping on the other foods.) Take foods in the smallest quantity needed (e.g., a small jar of mayonnaise). At the campsite, insulate the cooler with a blanket, tarp or poncho. When the camping trip is over, discard all perishable foods if there is no longer ice in the cooler or if the gel-pack is no longer frozen.

Cleanup

Whether taking a hike or camping at an established site, if you will be washing dishes or cookware there are some rules to follow. Camping supply stores sell biodegradable camping soap in liquid and solid forms. But use it sparingly, and keep it out of rivers, lakes, streams and springs, as it will pollute. If you use soap to clean your pots, wash the pots at the campsite, not at the water's edge. Dump dirty water on dry ground, well away from fresh water. Some wilderness campers use baking soda to wash their utensils. Pack disposable wipes for hands and quick cleanups.

CASE STUDY: A 43 year old MSgt was suffering from food poisoning when he fainted, striking his head on a door. His wife called for an ambulance and he was transported to a local hospital and treated for dehydration, gastrointestinal distress, concussion and a large laceration on the front left side of his head

BOTTOM LINE:
When left unrefrigerated, many foods can become contaminated with bacteria that produce dangerous toxins that cause food poisoning. These bacteria are undetectable by sight, smell or taste and thrive on foods that are left out for very long, especially at warmer, summer temperatures.

Food-borne illness symptoms are much like those of the flu, which include headache, diarrhea, vomiting, abdominal cramps and fever. These signs may not appear until several hours to several days after eating a contaminated food. Food poisoning can be especially harmful for children, older adults, pregnant women and those with chronic illnesses.

Meat, poultry, fish, and eggs should never be eaten raw. These foods should be maintained in a refrigerator at a temperature below 40 degrees Fahrenheit and cooked thoroughly before eating. A cooking temperature of 160 degrees is advised. When cooking, use a meat thermometer or follow these tips.

Poultry: Cook it until the meat is white, and don't eat it if you see blood or pink meat.
Hamburger: Cook it until there are no traces of pink in the center, or blood in the juices.
Steaks: Can be safely cooked medium; that's because harmful bacteria in beef are found on the surface of the steak, not in the interior like in ground meats.
Fish: Cook until it flakes easily and is no longer translucent in the center.
Egg: Cook eggs and egg dishes thoroughly. Don't even sample anything containing raw eggs such as uncooked dough and cake batter.

Other Tips for Safe Food Handling, Preparation and Storage

- Keep foods cold, below 40 degrees Fahrenheit, or hot, above 140 degrees Fahrenheit. Foods left out between those temperatures for more than two hours should be discarded
- Keep cooked foods separate from raw foods. Cross-contamination of foods could occur if bacteria-harboring raw food comes in contact with cooked foods. Wash hands, utensils, cutting boards and countertops after preparing or handling raw meats

Module 14: Lightning and Tornados - Summer Weather Safety

Lightning

At any given moment, there are 1,800 thunderstorms in progress somewhere on earth. According to the National Weather Service, this amounts to 16 million storms a year. In the United States, there are an estimated 25 million cloud-to-ground lightning flashes each year. While lightning can be fascinating to watch, it is also extremely dangerous.

Underrated Problem

According to further statistics kept by the National Weather Service, the 30 year average for lightning fatalities across the country is 61. Lightning usually claims only one or two victims at a time and because lightning does not cause mass destruction, such as from a tornado event or a hurricane, lightning generally receives much less attention than the more destructive storm-related events. Due to under reporting, it is estimated that, more realistically, about 100 - 120 deaths per year occur because of lightning. Documented lightning injuries in the United States average 300 per year, however undocumented lightning injuries are likely much higher.

Lightning Safety Tips from the National Weather Service:

Outdoors:

- Remember, lightning can strike up to 10 miles from the rain area. Go quickly inside a completely enclosed building before the storm arrives. Do not go to a carport, open garage, covered patio or open window. A hard topped all metal vehicle also provide good protection
- If no shelter is available, do not take shelter under a tree. Avoid being the tallest object in the area. If only isolated trees are nearby, crouch down on the balls of your feet in the open, keeping twice as far away from a tree as it is tall
- Get out of the water, off the beach, and out of small boats or canoes. Avoid standing in puddles of water even if wearing rubber boots
- Do not use metal objects such as golf clubs, metal bats, fishing rods, or metal tools
- Stop tractor work and heavy construction equipment, especially when pulling metal equipment

Indoors:

- Stay there! The best protection from lightning is a house or other substantial building. However, stay away from windows, doors, and metal pipes
- Do not use electric appliances during the storm. Turn off sensitive equipment such as televisions, VCR's, and computers
- Telephone use is the leading cause of indoor lightning injuries in the United States. Do not make a call unless it is an emergency

Tornadoes

There is no such thing as guaranteed safety inside a tornado. Freak accidents happen and the most violent tornadoes can level and blow away almost any house and its occupants. Extremely violent F5 tornadoes are very rare. Most tornadoes are actually much weaker and can be survived using these safety ideas by the *National Oceanic and Atmospheric Administration.*

Prevention and practice before the storm: At home, have a family tornado plan in place, based on the kind of dwelling you live in and the safety tips below. Know where you can take shelter in a matter of seconds and practice a family tornado drill at least once a year. Have a pre-determined place to meet after a disaster.

Flying debris is the greatest danger in tornadoes so store protective coverings (e.g., mattress, sleeping bags, thick blankets, etc.) in or next to your shelter space, ready to use on a few seconds' notice. When a tornado watch is issued think about the drill and check to make sure all your safety supplies are handy.

Turn on local TV, radio or NOAA Weather Radio and stay alert for warnings. Forget about the old notion of opening windows to equalize pressure. The tornado will blast open the windows for you! If you shop frequently at certain stores, learn where there are bathrooms, storage rooms or other interior shelter areas away from windows, and the shortest ways to get there.

Administrators of schools, shopping centers, nursing homes, hospitals, sports arenas, stadiums, mobile home communities and offices should have a tornado safety plan in place with easy-to-read signs posted to direct everyone to a safe, close-by shelter area. Schools and office building managers should regularly run well-coordinated drills.

If you are planning to build a house, especially east of the Rockies, consider an underground tornado shelter or an interior safe room. Also, consider owning a crank radio in case the power goes out.

Know the signs of a tornado: Weather forecasting science is not perfect and some tornadoes do occur without a tornado warning. There is no substitute for staying alert to the sky. Besides an obviously visible tornado, here are some things to look and listen for:

- Strong, persistent rotation in the cloud base
- Whirling dust or debris on the ground under a cloud base ; tornadoes sometimes have no funnel
- Hail or heavy rain followed by either dead calm or a fast, intense wind shift. Many tornadoes are wrapped in heavy precipitation and can't be seen
- Day or night - loud, continuous roar or rumble, which doesn't fade in a few seconds like thunder
- Night - small, bright, blue-green to white flashes at ground level near a thunderstorm (as opposed to silvery lightning up in the clouds). These mean power lines are being snapped by very strong wind, maybe a tornado
- Night - persistent lowering from the cloud base, illuminated or silhouetted by lightning, especially if it is on the ground or there is a blue-green-white power flash underneath

What to do during a tornado:

In a house with a basement: Avoid windows. Get in the basement and under some kind of sturdy protection (heavy table or work bench), or cover yourself with a mattress or sleeping bag. Know where very heavy objects rest on the floor above (pianos, refrigerators, waterbeds, etc.) and do not go under them. They may fall down through a weakened floor and crush you.

In a house with no basement, a dorm, or an apartment: Avoid windows. Go to the lowest floor, small center room (like a bathroom or closet), under a stairwell, or in an interior hallway with no windows. Crouch as low as possible to the floor, facing down; and cover your head with your hands. A bathtub may offer a shell of partial protection. Even in an interior room, you should cover yourself with some sort of thick padding (mattress, blankets, etc.), to protect against falling debris in case the roof and ceiling fail.

In an office building, hospital, nursing home or skyscraper: Go directly to an enclosed, windowless area in the center of the building -- away from glass and on the lowest floor possible. Then, crouch down and cover your head. Interior stairwells are usually good places to take shelter, and if not crowded, allow you to get to a lower level quickly. Stay off the elevators; you could be trapped in them if the power is lost.

In a mobile home: Get out! Even if your home is tied down, you are probably safer outside, even if the only alternative is to seek shelter out in the open. Most tornadoes can destroy even tied-down mobile homes; and it is best not to play the low odds that yours will make it. If your community has a tornado shelter, go there fast. If there is a sturdy permanent building within easy running distance, seek shelter there. Otherwise, lie flat on low ground away from your home, protecting your head. If possible, use open ground away from trees and cars, which can be blown onto you.

At school: Follow the drill! Go to the interior hall or room in an orderly way as you are told. Crouch low, head down, and protect the back of your head with your arms. Stay away from windows and large open rooms like gyms and auditoriums.

In a car or truck: Vehicles are extremely dangerous in a tornado. If the tornado is visible, far away, and the traffic is light, you may be able to drive out of its path by moving at right angles to the tornado. Otherwise, park the car as quickly and safely as possible -- out of the traffic lanes. [It is safer to get the car out of mud later if necessary than to cause a crash.] Get out and seek shelter in a sturdy building. If in the open country, run to low ground away from any cars (which may roll over on you). Lie flat and face-down, protecting the back of your head with your arms. Avoid seeking shelter under bridges, which can create deadly traffic hazards while offering little protection against flying debris.

In the open outdoors: If possible, seek shelter in a sturdy building. If not, lie flat and face-down on low ground, protecting the back of your head with your arms. Get as far away from trees and cars as you can; they may be blown onto you in a tornado.

In a shopping mall or large store: Do not panic. Watch for others. Move as quickly as possible to an interior bathroom, storage room or other small enclosed area, away from windows.

In a church or theater: Do not panic. If possible, move quickly but orderly to an interior bathroom or hallway, away from windows. Crouch face-down and protect your head with your arms. If there is no time to do that, get under the seats or pews, protecting your head with your arms or hands.

After the tornado:

Keep your family together and wait for emergency personnel to arrive. Carefully render aid to those who are injured. Stay away from power lines and puddles with wires in them; they may still be carrying electricity! Watch your step to avoid broken glass, nails, and other sharp objects. Stay out of any heavily damaged houses or buildings; they could collapse at any time. Do not use matches or lighters, in case of leaking natural gas pipes or fuel tanks nearby. Remain calm and alert, and listen for information and instructions from emergency crews or local officials.

Module 15: Back to School

Summer vacations are coming to an end and students will start preparing for a new school year. It is important to make sure your children are up-to-date on their immunizations, are eating healthy and are safe traveling back and forth to school.

According to the *Federal Citizen Information Center*, the top five reasons children miss school is because of colds, stomach flu, ear infection, pink eye and sore throat. The single most important thing a child can do to prevent illness is wash his or her hands thoroughly and frequently. School age-children gradually become less prone to common illnesses and recover more quickly. However, routine exams and screening will help to identify potential problems before they become serious health issues.

School busses will be busy picking young children up, there could be increased pedestrian traffic, and school speed zones will be back in effect. The *Federal Citizen Information Center* points out that kids should never play in the street while waiting for the bus and should move immediately on the sidewalk and out of traffic. If you drive your child to school, make sure everyone wears a seatbelt at all times and children under 13 should ride in the rear seat of vehicles. Remember that many mishaps occur while novice teen drivers are going to and from school. You may want to limit the number of teen passengers to prevent driver distraction.

CASE STUDY: A 24 year old SrA was operating her car on a public two lane highway. She failed to identify the bus as stopped (although all stop signals were activated/flashing) and rear ended the bus that was letting passengers off. Her estimated speed at the time of the mishap was between 55-60 miles per hour.

BOTTOM LINE:

The safety of our school children depends upon drivers slowing at designated school zones when children are present and stopping when a school bus is loading. It is a fact that most school bus fatalities occur ***when the bus is stopped*** and the child is ***NOT*** on the bus! In today's automobiles, external flashing lights have a hard time competing with the cocoon we create with cell phones, GPSs, text messages, and stereos.

Module 16: Trip Planning

With nice weather comes the desire to get out of town. Fall road trips offer families time to hit the road together. But, do you plan ahead and practice risk management?

- **A**ssess the situation: Identify and assess the hazards associated with a particular mission or activity
- **B**alance Controls: Consider all available controls (resources) available to ensure success or mitigate identified hazards
- **C**ommunicate: Communicate with leadership or others to discuss problems, intentions & possible alternatives. In individual situations carefully consider personal actions before deciding upon & implementing a final course of action
- **D**ecide and **D**ebrief: Make the decision to continue, modify or abandon the mission or activity based upon real-time circumstances and conditions. Provide feedback on what worked and what did not work to ensure important lessons learned are passed to others; your experience can help save lives!
- **TRiPS Planning Tool**

  https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC3163FF0FB5E044080020E329A9&channelPageId=s6925EC13537F0FB5E044080020E329A9