



The Safety Beacon is for informational purposes. Simply reading the Beacon does not satisfy your monthly safety education requirements but unit safety officers are encouraged to use the articles in the Beacon as topics for their monthly safety briefings and discussions.

May 2016

CADETS ROCK !!!

What's New In This Issue?

- You may be wondering why I opened with CADETS ROCK !!! on the front page. Well, because they do. School is out for the summer and we're beginning our busiest season for NCSAs, encampments, flight academies, and all kinds of other cadet activities. You'll begin to see some more emphasis on cadet safety and cadets' involvement in the safety program, so stay tuned!
- We are asking our cadets to contribute articles for the Beacon Newsletters, and safety briefings for the website. This is a great way for individual cadets, or groups, to learn about risk management and contribute to CAP Safety. Read about it on the next page.
- Crosswinds, gusty winds, erratic winds, and "squirrely" winds are always a challenge for pilots and can be a big hazard if you don't plan ahead. Make "wind analysis" a habit pattern.
- Soccer is one of the most popular sports in the world, but like all other sports it brings some risk of specific injuries. Read about how we can use a little bit of risk management to lessen the probability and severity of soccer injuries.
- Check out the article on what we can do to reduce the incidence of fainting spells among cadets.
- Read a summary of some of the more common mishaps that were closed out in the month of March.
- With the summer months ahead, hot weather brings the risk of heat-related injury and illness. CAP Lt Col Jim Shaw, an active member of the Georgia Wing and long time safety professional, has designed a great way to have ice-cold towels ready during hot weather events. Check out his easy-to-build "Chill Wipes Bucket."
- Thanks also to Lt Col Jim Carr, the Director of Safety for the National Capital Wing, for sending me a great link to a National Safety Council reminder about the perils of Distracted Driving!

safety@capnhq.gov

Let's Hear From Our Cadets!!

I'm Looking for Safety Articles Written by Cadets

George Vogt, CAP/SE

It is great to see our cadets getting more and more involved in Safety and Risk Management. In the coming months you'll see some more information on how to involve cadets in the safety program and in the planning of unit activities. I'm already seeing quite a few cadets becoming more interested in risk management and how it is applied in our CAP activities and our daily lives. I've even seen some cadets submit articles for the Beacon, and briefings for our Safety Education page. I want to see more of that, but I need to set a few ground rules.

All cadets are welcome and encouraged to submit articles for publication in the Beacon. We would love to see articles on how you use risk management, or how you guard against certain hazards and risks in your cadet activities. Do you have a new safety process you'd like to share? Now's your chance. Does your squadron have an innovative way of doing safety training or integrating cadets into the safety program? Let us know about it.



Follow the checklist and you should be on your way to getting published in the Beacon...

- All articles must refer to risk management and how you are using RM concepts
- If you quote, or copy, or use excerpts from people or articles, you must give them credit
- If you're giving technical, or medical, or scientific information, cite reputable sources
- You must receive approval of your article from your Commander, Safety Officer, or Deputy Commander for Cadets and make sure you include one or all of them on your e-mails
- Realize we might edit a little to make it fit or read clearly, but you'll get credit!
- Tell us a little about yourself (rank, duties, activities, etc) so we can include it with the article
- We reserve the right to decide what gets published and what doesn't

...and maybe a briefing or two!

Do you have a briefing you'd like to share, or maybe get it included on our Safety Education page? We would love it if individual cadets or units would send us some educational briefings we can share with the rest of the CAP membership. Same rules apply as the Beacon articles.

Send us your best stuff!

safety@capnhq.gov

WHAT Did You Say the Winds Were???

George Vogt, CAP/SE

I don't usually write the flying articles for the Beacon. I leave that to the CAP members flying our CAP aircraft on a daily basis. But there are certain things in flying that are universal so I figured I'd join the conversation.



I often think back to my days as an instructor pilot in the Air Force, teaching in a variety of different aircraft. While Air Force flying doesn't always translate to General Aviation flying, there are certain elements of teaching that have direct transfer. One thing I always tried to do, especially when dealing with a new or low-time pilot, was to make sure they develop strong habit patterns in their routine flights so those habits are there when the flights aren't so routine.

An example is the analysis of winds when preparing to land. Every time a basic student would come around the traffic pattern, sitting next to me in his mighty little T-37, I'd ask "what winds did the controller call?" and "what does that mean to you?" They'd tell me what the winds were. They'd tell me if they were coming from the left or the right and what that would mean for crosswind controls and what airspeed they'd carry on final. As they got more advanced they'd compare the surface winds to what they were "feeling" the airplane do aloft so they could be ready for any wind shear or change of wind direction that might exist.

Teaching in the B-737 (Air Force T-43), wind calculations were always a challenge as we added half the steady state wind, and the full gust factor, to our reference speed on final. A wind that was 15 gusting 25 became a real math problem for a pilot new to that airplane: $1/2 \times 15 = 8$ (rounded up) + 12 = 20. But they got used to doing it, because we did it every time.

With all that as background, I am dismayed a bit when I read mishap reviews that say a CAP pilot was "surprised" by a crosswind or a small gust ... or when a pilot says a hard-landing was "caused" by the unanticipated loss of a headwind. Yes, winds can be squirrely at times and yes they can even surprise us at times. However, if you are not actively assessing the winds for speed, direction, gusts, and other factors (row of trees to the side of the runway?) on every landing then you stand a good chance of being surprised. I would rather do a thorough analysis of the winds and be ready for them than to be "surprised."

That's one of the prime tenets of risk management. If you're not actively trying to avoid what can go wrong, you're not doing everything you can to make it go right. My \$.02

Let's Play Soccer!

(Ouch)

George Vogt, CAP/SE

Soccer is a wonderful sport, allowing all ages and all levels of athletic talent to get a great cardiovascular workout. It has become amazingly popular throughout the world. I know that quite a few of our cadet and composite squadrons also use soccer as a way of rounding out their PT sessions.



Unfortunately, with that increase of informal cadet soccer matches we've seen an increase in the minor injuries that soccer brings. The most common of these is the shin injury that comes about when two competitors are going for the ball and end up kicking each other in the shins. Ouch.

This injury is so common that almost every organized soccer league in the country, including inter-scholastic leagues, have mandated the use of shin guards. I've talked with the folks in Cadet Programs about this to see if there is something we could do to help reduce injuries.

The "old school" safety approach would be to mandate safety equipment! We would decree that all cadets must wear shin guards when they play soccer. Unfortunately, a mandate like that would have some dire unintended consequences. The cost of outfitting all our cadets with shin guards would be prohibitive, so units would either ignore what they saw as an "unrealistic" requirement, or they would simply stop playing soccer...neither of those are acceptable solutions.

What would our "new school" safety do? We'd use risk management. How can we keep cadets from kicking each other when consumed by the competitive spirit? We can tell them during our pre-activity safety briefing that it is only a game and they should be careful. Or we could implement a new rule that says we are playing "non-contact soccer" and the kicking of a shin or a sliding "tackle" when another cadet has the ball results in a penalty kick. Learning to play under the new rule is a challenge for the cadets, *and* they remain constantly aware of the risk of shin-to-shin contact. We've just come up with a no-cost solution and added a new challenge, while addressing a hazard and mitigating a risk to an acceptable level.

What can we do to mitigate risk to an acceptable level while still accomplishing the mission of fun, teamwork, and exercise "...without getting hurt?"

That's "Everyday Risk Management"

Can we prevent all cases of fainting? No

Can we prevent some of them? YES!

George Vogt, CAP/SE

I think all of us know that there are a lot of factors that contribute to fainting episodes in our younger members. We can admit that it is pretty much impossible to prevent all fainting episodes, but we need to do our best to minimize them when we can, by some understanding and some planning.

I'm not a doctor, but thanks to the wonders of the internet I've done some research so I'm more informed about fainting and its causes. You can all do the same, but make sure you're looking at reputable medical websites and not open forums populated with well-meaning people who tell their anecdotal stories about what they "think" causes fainting.

"Locking knees" does not cause fainting. Say *WHAT??* True. I have not found a single citation from a reputable source that agrees with the notion that locking of the knees causes the pinching of a certain nerve, or constricts a certain artery, resulting in restricted blood flow to the brain.

Quite simply, the brain needs to be supplied with sufficient levels of oxygen-rich blood or fainting may occur. There are many causes of the brain not getting enough oxygen. One common cause is reduced blood pressure to the brain. If a person stands still for a prolonged period, blood pressure can decrease and cause fainting. When people are active, their leg muscles squeeze blood against gravity and return it back to the heart so it can be pushed out to the brain and body; this is called the "muscle pump" effect. Standing still can reduce this "muscle pump" effect because not enough blood is returning to the heart, which can produce low blood pressure and then fainting. Locking knees makes your legs very still which makes sure the muscles aren't working, but it's the stillness of the legs and not the "locking" of the knees that contributes to fainting.

There is another practice that can lead to fainting, and that is standing motionless during the first five or ten minutes following vigorous exercise. The muscles that were helping boost circulation during exercise have stopped working, blood pressure drops, and the brain doesn't get the oxygen it needs. Fainting can occur.

Dehydration can increase the incidence of fainting. Low blood sugar from poor nutrition can increase the chances of a fainting spell. Anxiety and emotional stress can add to the fainting risk, which is why it is always best to be sitting down during highly emotional times.

The point I am trying to make with all of this is that knowing some of the common factors that increase fainting risk can help us reduce that risk. If we over-simplify and say that a cadet passed out because "he locked his knees" we have stopped looking for other causes and we have done nothing to reduce the fainting occurrences.

With what we've learned from this short article, we should know to ask our cadets if they are well hydrated and have gotten adequate nutrition through the day. We can have our cadet leadership call and remind the cadets that they will have PT the next day. We can have our cadets continue walking around after their mile run rather than making them stand in line to record their times or stand in formation right after PT. We can have our cadets flex their leg muscles while standing in formation.

Fainting is very much like any other type of mishap we see in CAP. We can't prevent all of them, but a good analysis of the hazards, the risks, and the causes will help us develop processes that can reduce their occurrence.

March 2016 Mishap Closeouts

Col Robert Castle, CAP/SEA

Bodily Injury – 23, Aircraft – 4, Vehicle 2



It's airshow season!

It's also out in the hot sun all day, with little relief, no shade and not drinking enough fluids season! Many organizations call on CAP member support to assist with crowd control, parking and other similar types of duty which we eagerly respond to. Not only do we get into these events for free, but sometimes they feed us and there's lots of cool stuff to see

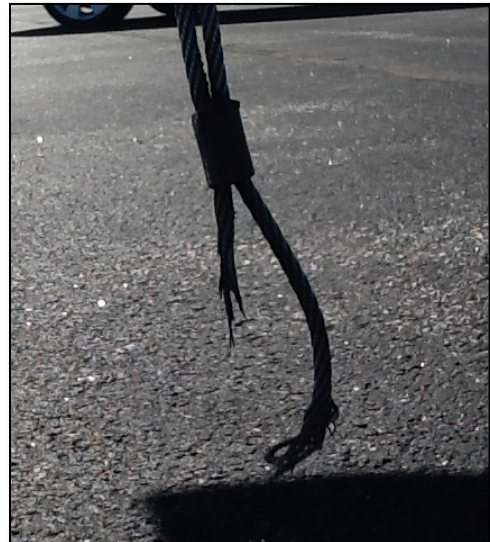
and do when (if) we get a rest break. Unfortunately, it's also easy to overexert and sometimes there aren't enough members to provide regular breaks so members can find some shade, rehydrate and get off our feet. If your unit is helping out at this type of event, make sure you include risk management in your planning. Are there enough members attending to provide adequate rest breaks? If not, consider working with other units in the area to provide additional members to help out, or reduce the scope of the duties you take on. Is there an adequate source of water available to keep members hydrated? Sometimes, local bottlers will donate bottled water or the National Guard can supply a water buffalo to assist. Is there a suitable spot for members to get out of the sun? Into an air conditioned area to cool off? Members supporting a recent airshow reported five cases of heat related injuries.

Physical Fitness: PT activities continue to be the chief cause of bodily injuries each month. Twisted ankles, nausea, difficulty breathing and dizziness (primarily after the mile run) are the most commonly reported problems. A regular personal fitness regimen combined with good nutrition and staying hydrated throughout the day will help reduce the number of these types of mishaps.



Naval Aviators are highly trained, skilled pilots able to land on a heaving postage stamp of an airfield. CAP generally operates from nice long paved runways that don't require the use of arresting gear.

Despite how it appears, CAP airplanes are not equipped with a "tail hook." There's a bit less ground clearance with the glider tow package installed. Use caution when flying in gusty wind conditions or practicing short field/soft field takeoffs and landings and avoid using excessively nose high attitudes. If sight picture doesn't look right, GO AROUND!



Check out the next couple pages for a great idea to help you prepare for the hot weather events ahead. The "Chill Wipes Bucket" would be a great project for cadets.

If you don't get around to creating the "Chill Wipes Bucket," an ice chest full of ice water and hand towels will make a great substitute. Turn the page, and

... STAY COOL!

Chill Wipes Bucket

Bucket List



Bag of Ice



Drill



3/8" Drill Bit



Black Lid for 5
Gallon Bucket



5 Gallon Bucket



Box of Rags (200ct)

- 1) Drill 3/8" hole into the lid for the bucket. Do not use any drill bits larger or smaller. Smaller ones will not allow you to pull the rags through. The larger drill bits will let too much of the rag through and will not tear off when the perforation
- 2) Remove the rags from the box
- 3) Place the rags into the 5 gallon bucket
- 4) Pour the ice into the bucket in the area between the side of the bucket and the outer edge of the roll of rags. **Do not put ice in the center of the roll. This is where you will have to pull from.**
- 5) Fill the ice to the top of the roll
- 6) Get water and pour in the bucket until the water is above the top of the roll
- 7) Hold roll down until saturated with the cold water.
- 8) Pull the center of the roll out and thread through the hole.

If you use the 3/8" drill bit the wipe will automatically tear apart and leaves enough cold water to allow the person to wipe their face and the back of their neck.

This provides a great way to help someone who is hot to cool down at a faster rate. It is very refreshing.

The cold temperature will last for several hours and can be easily filled again.

Enjoy and chill out!

Chill Wipes Bucket



The Great Multitasking Lie



DEBUNKING THE MYTHS OF CELL PHONE DISTRACTED DRIVING

Most people may know that texting while driving is a dangerous behavior, but many don't fully grasp the idea that having cell phone conversations in the car is also risky. Below, the National Safety Council helps dispel the illusion of multitasking and the myths that blind the public into believing it is safe to use your cell phone while driving.



Consider This

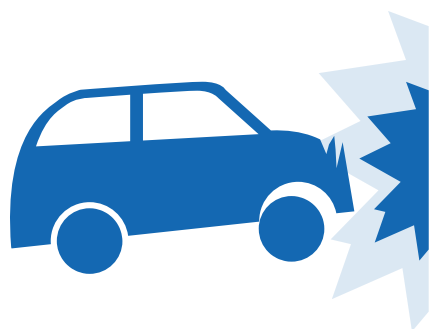


It's no mystery: Americans today have an unhealthy obsession with their cell phones.



A 2012 survey conducted by the AAA Foundation for Traffic Safety found that **more than two in three** drivers report talking on their cell phone while driving at least once in the past 30 days.

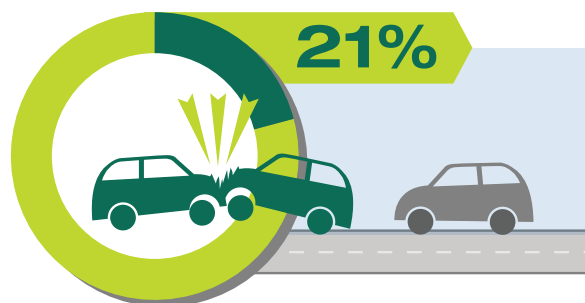
Nearly **one in three** say they did this "fairly often" or "regularly."



Drivers talking on handheld or hands-free cell phones are

4X

as likely to be involved in a car crash.



In addition, the National Safety Council currently estimates that people talking on cell phones while driving are involved in **21%*** of all traffic crashes in the United States.

The average cost of a property damage crash in 2011:

\$9,100

*According to a 2010 annual estimate.

The Great Multitasking Lie



DEBUNKING THE MYTHS OF CELL PHONE DISTRACTED DRIVING



Myth vs. Reality

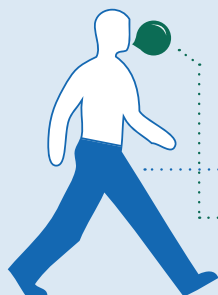


Myth #1 Drivers can multitask.

Reality

Contrary to popular belief, the human brain cannot multitask. Driving and talking on a cell phone are two thinking tasks that involve many areas of the brain. Instead of processing both simultaneously, the brain rapidly switches between two cognitive activities.

Take the classic example of the act of walking and chewing gum. There is a common misconception that because people appear to simultaneously do both that they can just as easily talk on their cell phones and drive safely at the same time.



The truth is that walking and chewing gum involve a **thinking** task and a **non-thinking** task.

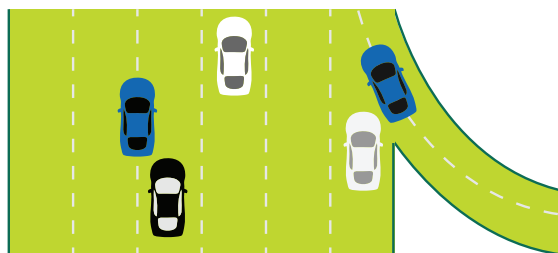


Conversation and driving are **both thinking** tasks.

Myth #2 Talking to someone on a cell phone is no different than talking to someone in the car.

Reality

A 2008 study cited by the University of Utah found that drivers distracted by cell phones are **more oblivious** to changing traffic conditions because they are the only ones in the conversation who are aware of the road.



In contrast, drivers with adult passengers in their cars have an **extra set of eyes and ears** to help keep the drivers alert of oncoming traffic problems. Adult passengers also tend to adjust their talking when traffic is challenging. People on the other end of a driver's cell phone cannot do that.

The Great Multitasking Lie



DEBUNKING THE MYTHS OF CELL PHONE DISTRACTED DRIVING



Myth vs. Reality

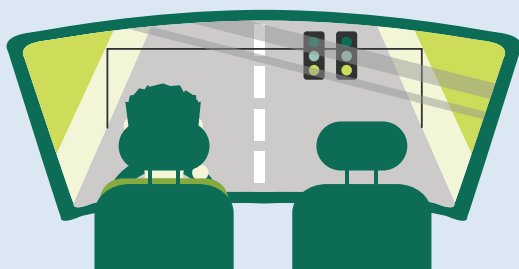
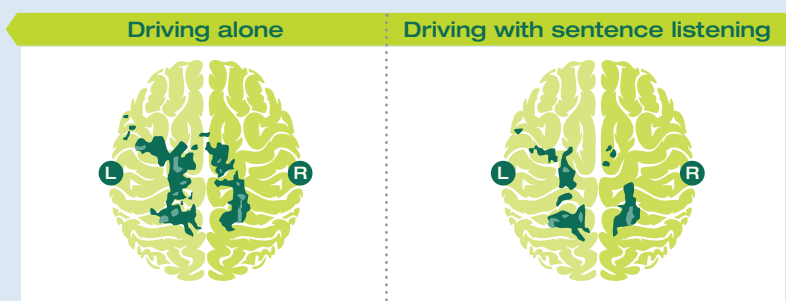


Myth #3 Hands-free devices eliminate the danger of cell phone use during driving.

Reality

Whether handheld or hands-free, cell phone conversations while driving are risky because the distraction to the brain remains.

Activity in the parietal lobe, the area of the brain that processes movement of visual images and is important for safe driving, decreases by as much as **37%** when listening to language, according to a study by Carnegie Mellon University.

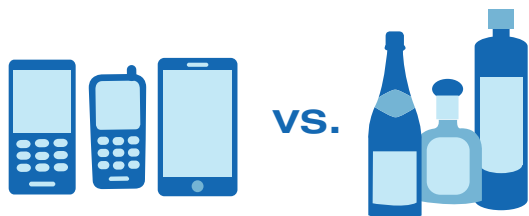


Drivers talking on cell phones can miss seeing up to 50% of their driving environments, including pedestrians and red lights. They look but they don't see. This phenomenon is also known as **"inattention blindness."**

Myth #4 Drivers talking on cell phones still have a quicker reaction time than those who are driving under the influence.

Reality

A controlled driving simulator study conducted by the University of Utah found that drivers using cell phones had **slower reaction times** than drivers with a .08 blood alcohol content, the legal intoxication limit.



There is a simple solution – drivers talking on cell phones can immediately eliminate their risk by **hanging up the phone**, while drunk drivers remain at risk until they sober up.