

Air Education and Training Command's **TORCH**

Summer 2012



IT'S PERSONAL
Commander talks about mishaps, suicides as command heads into high-risk critical days of summer

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TROUBLED WATERS

As a Torch magazine designer for the past 17 years, Dave Stack has helped produce hundreds of heartbreaking tales to share the lessons learned with readers. Then, he found himself at the center of one of those stories. Four years after losing his grandson to a drowning accident, he and his family are still trying to cope with the tragedy. **PAGE 14**

BRAIN BUSTERS

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A TEXT TO DIE FOR

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'EVERYTHING I KNOW...'

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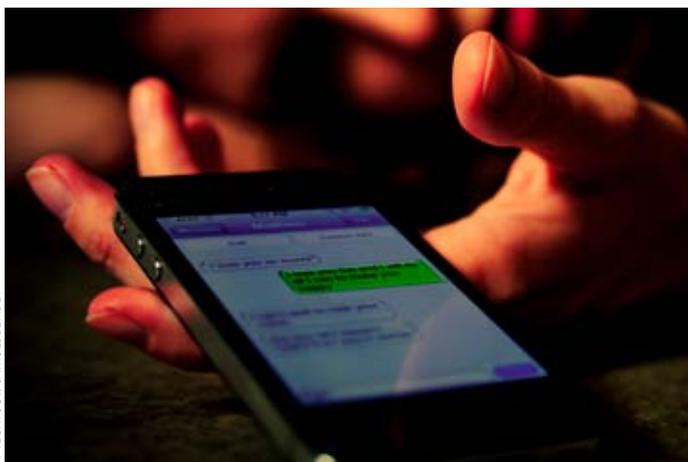
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BY TECH. SGT. SAMUEL BENDET

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Cover photo by Tech. Sgt. Samuel Bendet

Back cover composite by Tech. Sgt. Samuel Bendet and David Stack

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FROM THE DIRECTOR

By Col. CREIG A. RICE
AETC director of safety



DOES YOUR CALL SIGN END IN 1?

When flying fighters, the call sign of the flight lead of the formation normally ends in the number 1 to denote that they have ultimate responsibility for the flight. The flight works together as a team to meet the mission, whether killing bad guys and breaking things or training to do so. But while there is a shared responsibility for success, the buck stops with the flight lead.

A concept that goes hand-in-hand with this and describes the personal responsibility of each flight member is that of "being the mayor of Cockpit City." This philosophy means that each flight member has the responsibility to perform to the expected level and is held accountable for any actions that don't support the mission or lead to a less than optimum outcome, e.g. personal accountability ... or more simply put, check yourself before you wreck yourself.

So how does all this apply to safety?

As leaders, we make decisions each day that impact those around us. These decisions can range from simple ones to those far more complex. Simple decisions might include ones in your personal life, such as ensuring everyone in your car uses a safety belt or not texting while driving (and ensuring your teenagers are not doing it either). More complex decisions could be ones at work, like what type of fall protection is required for doing maintenance on the wing of a C-17 or what type of risk mitigation factors are in place as you take a student pilot out on their first T-6 hop.

Depending on the situation, your call sign may end in 1, or you might simply be the mayor of Cockpit City. Either way, the choices you make have an impact on you and those around you.

As we move into the summer season and all of the great outdoor activities that we enjoy, please take time to put these concepts into practice. When your call sign ends in 1, take charge — ensure the proper risk mitigation efforts are in place before doing an activity, and ensure that others you are responsible for do the same. If you are acting as the mayor of Cockpit City, take responsibility for your actions. Don't text and drive, don't drink and drive, wear your seat belt and hold others accountable for their actions.

In this issue, we have an article from General Rice (page 8) talking about the importance of mishap prevention and resiliency. Getting this message out to the masses is the epitome of a call sign ending in 1. On the other side, we have stories on car surfing (page 6) and texting love notes while driving (page 18) ... two examples of people who fell short of their responsibilities as the mayor of Cockpit City.

In Air Education and Training Command, the culture we create, both on the education and training side and the mishap prevention side, makes our Air Force the best in the world. And it all starts with knowing your role and doing your job ... whether it's leading when your call sign ends in 1 or personal accountability when your role is the mayor of Cockpit City. Have a safe summer!

"Depending on the situation, your call sign may end in 1, or you might simply be the mayor of Cockpit City. Either way, the choices you make have an impact on you and those around you."

JUST SCRATCHING THE SURFACE

There's a lot more bad stuff that goes on during TDYs than just binge drinking — you just scratched the surface (“What Goes TDY, Stays TDY,” Spring 2012 issue, page 8). But at least you're addressing it, and most of the bad stuff that happens probably starts with too much drinking in the first place.

Hopefully, your story will have the desired impact and make Airmen think twice ... but I doubt it (though it might persuade some family members to keep closer tabs on their spouses who go TDY!).

*Jillian Kennison
Houston*

CREATING CANDOR

Wow! The Spring 2012 issue of Torch is fantastic! I was most impressed with the articles “No Clowning Around” (cover story) and “What Goes TDY, Stays TDY” (page 8). Rarely do you see a military publication use such candor.

Excessive partying while TDY has long been an issue, but I can't recall seeing it addressed by the service. And while flight discipline issues have always been around, the story you presented gave specific examples and even talked about the discipline doled out

to the offenders. Sometimes the services have a tendency to sugar-coat things (at least publicly), but I felt, in these two examples, that you didn't hold back.

These are the type of straightforward, honest, no-nonsense articles that will grab the attention of service members and hopefully make a difference in reducing injuries and fatalities.

Hope you're allowed to continue taking on controversial but important subjects. Great work!

*Bob Cowart
Via e-mail*



LETTERS TO TORCH

Have a comment or complaint? Letters to Torch may be sent via e-mail to:

torch.magazine@us.af.mil

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SHOP TALK

Nice job on the Spring 2012 issue of Torch. Folks around the office (in Air Force Space Command) are talking about the aviation articles, and we don't even own any aircraft! I appreciate the effort ya'll put into this one.

*Eric Brenkert
Peterson Air Force Base, Colo.*

PHYSICS LESSON

Reference the “Point, Counterpoint” letter in the Spring 2012 “Torch Talk” (page 2), Dave Soetano is entirely correct that a car going 60 mph crashing into another car going 60 mph would have the same effect as one crashing into a wall at 60 mph.

Here is another explanation I use without any math: Have two identical cars hit each other head on at 60 mph. Now, place a rigid wall between the two cars and have

them drive into it at 60 mph. There will be no change in damage to either car.

Now, remove the second car and let the first car hit the rigid wall. Still no change in damage.

Of course, the two cars must be identical. A Suburban crashing into a Fiat 500 would have different results altogether.

*Chuck Dorney
Wright-Patterson
Air Force Base, Ohio*



FILE GRAPHIC

WOUNDED 'MANIMAL'

"Deer Fights Back" (Spring 2012 issue, "Tales of the Strange," page 6) is an entertaining story, but I'm surprised the author and his friends even put themselves in that position. You know what they say about wounded animals backed into a corner ... that's when they become most dangerous. Trying to straddle an injured deer while holding a hunting knife probably wasn't the best decision, and that hunter is lucky he didn't stab

himself with his own knife. And then with hunters circled around the deer, it was only a matter of which one drew the "unlucky ping-pong ball" as to which direction the deer would choose to flee. This story could have had a far more tragic ending, instead of just a wounded animal and "manimal."

*Art Espinoza
Via e-mail*



'JUST SAYIN' ...'

How does one F-16 fighter rear-end another when they are just taxiing out to the runway ("F-16 'Rear-ends' Another Fighter," Spring 2012 issue, page 24)? ... Just sayin'. ... With over \$2.5 million in damages, I hope this inattentive

pilot doesn't get off scot-free. There has to be some accountability with such a careless mishap.

*Barry Lunt
New York*



'TREADMILL FAILS'

I found Torch on Facebook and saw the interesting "Treadmill Fails" video clips. Funny clips, but, sadly, people just don't understand how dangerous treadmills can be. One of my daughter's squadron members, a female pilot, was very seriously injured after slipping on a treadmill and hitting her head against a brick wall. She was no longer able to fly. Maybe at some point she will be able to return to it, but the brain injury destroyed all she had worked for up to that point.

*Aletha Werner
Via Torch on Facebook*

ACCIDENTAL POISONING

Great article on poison control! Sad to read about the 2-year-old girl who died from accidental poisoning and her twin brother who almost died as well ("Tears for Chloe," Torch on Facebook). You don't think it could happen to you until it does.

Last month, my son got into my father-in-law's blood pressure medication while they were supposed to be watching him. Thank God he spit the pills out, but it could have ended my son's life. Please safeguard your children against any type of medication.

*Staff Sgt. Luke Allen
Via Torch on Facebook*

INTERNATIONAL RELEVANCE

We came across your article "Three-legged Race in the T-6 Texan II" in the Winter 2011 copy of Torch (page 18) and found many relevant learning points we plan to share with our airmen here in Singapore. We are reprinting the article for our airmen. Thank you!

*Capt. Edwin Khoo
Republic of Singapore Air Force*



‘COMEBACK KID’ CONTINUES TO SHINE

PILOT, AMPUTEE WINS BIG AT WOUNDED
WARRIOR GAMES, MEETS PRINCE HARRY



BY ANDY DUNAWAY

SCOTT AIR FORCE BASE, Ill. — First Lt. Ryan McGuire, 4th Airlift Squadron C-17 pilot, won five medals at the 2012 Warrior Games April 30 through May 5 in Colorado Springs, Colo., and was also one of only five Department of Defense service members selected to meet Prince Harry of Wales May 7 at the British Embassy in Washington, D.C.

McGuire, featured on the cover of the May/June 2010 issue of *Torch*, has become something of a “comeback kid” after suffering a below-the-knee amputation of his right leg in a September 2009 boating accident. Seven months after he lost his limb, he competed in the inaugural Warrior Games, winning a gold medal in the 50-meter backstroke. After about eight months of rehabilitation, McGuire faced a medical board in August 2010, and



First Lt. Ryan McGuire (above center) runs the 1,500-meter, earning a gold medal at the 2012 Warrior Games held at the Air Force Academy, Colorado Springs, Colo., April 30 through May 5. At left, McGuire was featured on the cover of the May/June 2010 issue of *Torch* magazine.

was able to stay in the Air Force with a waiver to fly. A year after he’d lost his limb, he ran in the Air Force Marathon. Then in May 2011, a little over a year and a half after the boating mishap, McGuire became the first amputee to complete pilot training. By October of that same year — and two years after he’d lost his leg — he was the first amputee to finish C-17 qualification training.

By hauling in five medals in the 2012 Warrior Games, McGuire

bettered his three-medal showing in 2010 (he skipped the 2011 games because of pilot training). He duplicated his gold medal performance from 2010 in the 50-meter backstroke, and won silver in two other swimming events — the 50- and 100-meter freestyle competitions. He also took home gold in the 1,500-meter run and rounded out his medal haul with a bronze as a member of the Air Force sitting volleyball team.

Two days after the games, McGuire shook hands with Prince Harry.

“It was a really big honor,” McGuire said. “We took a tour of D.C., saw the British ambassador’s residence and met with Air Force leaders. Prince Harry met people in groups of five, and he was really concerned about the British team members’ impression of the Warrior Games. He said he was looking into bringing the games to his own country and coming back next year; so it was cool to see how impressed he was with the games and the U.S.”

The prince, who is also an Apache helicopter pilot in the British Blues and Royals of the Household Cavalry Regiment, visited the United States to meet the wounded warriors and to accept a humanitarian prize for his charity work with injured service members.

More than 200 injured or ill service members participated in the Warrior Games, hosted by the U.S. Olympic Committee, which featured seven sports including swimming, cycling, wheelchair basketball, sitting volleyball, archery, shooting, and track and field.

After meeting the prince, McGuire returned to Joint Base Lewis-McChord, Wash., where he is eager to get back to work in the C-17 Globemaster III.

“I’m ready to focus on flying; I’m still really new with only 100



COURTESY PHOTO

Meeting Prince Harry of Wales, Master Sgt. Christopher Aguilera, left, and McGuire were the only two Airmen out of five Department of Defense service members selected to visit with the prince in Washington, D.C., May 7. The prince visited the United States to meet wounded warriors, as well as accept a humanitarian award for his charity work with injured service members.

flying hours,” he said. “I recently did a medical evacuation mission, and it was powerful for me being an injured person to see how the Air Force saves lives. My goal is to focus on that right now.”

— Senior Airman Amber R. Kelly-Herard
Air Mobility Command Public Affairs

BY VAL GEMPIIS



Swimming toward the finish line May 5, McGuire took three of his five medals at the 2012 Warrior Games in the swimming events, including gold in the 50-meter backstroke and two silvers in the 50- and 100-meter freestyles.

HOW MCGUIRE WAS INJURED

- ◆ He and some friends went boating at Lake Amistad, Texas, Sept. 6, 2009, while stationed at Laughlin AFB, Texas.
- ◆ On the way back to the marina, an unsecured four-man tube blew out of the boat, which was going nearly 40 mph.
- ◆ McGuire’s right leg got tangled in a 50-foot tow rope, slamming him into the side of the boat and violently yanking him into the water.
- ◆ When he impacted the boat, he fractured his pelvis and dislocated his hip. But the rope did permanent damage, crushing bones and damaging arteries and veins in his right ankle and foot.
- ◆ With loss of blood flow and infection, he had to get a below-the-knee amputation Oct. 10, 2009.

FIRST-TIME SURFER SUFFERS RARE SPINAL INJURY



BY KANAKA MENEHUNE

Lying prone on a surfboard can cause hyperextension of the spine and lead to a rare injury called surfer myelopathy. Symptoms include back pain, tingling sensation in the legs, loss of feeling in the legs, inability to walk, paralysis and urinary retention.

Most people have heard horrifying stories of surfers being killed by sharks or drowning after disappearing in giant waves. But few have heard of a rare spinal injury called surfer myelopathy.

Unfortunately for an Airman learning to surf for the first time, she gained first-hand knowledge of this phenomenon.

After nearly 40 minutes of trying to surf, the Airman made her way to shore and felt a tingling sensation from her waist down. She assumed she was dehydrated, so she lay down on the beach and began to hydrate. When she stood up, she was still so wobbly she needed assistance walking to her car.

Still believing she was either dehydrated or needed to eat, the Airman proceeded to a nearby restaurant. At the restaurant, she required assistance to use the restroom and realized she could not urinate although the need was great. Then the tingling sensation in her legs changed to sharp pain, like needle pricks.

The Airman was escorted to the closest on-base emergency room, where she was diagnosed with surfer myelopathy, a rare non-traumatic spinal cord injury associated with surfing because of spine hyperextension while lying prone on the surfboard. Symptoms include back pain, tingling sensation in the legs, loss of feeling in the legs, inability to walk, paralysis and urinary retention.

The Airman was hospitalized for two days, given steroids for four days, and put on convalescent leave for 14 days, proving sharks and raging waters aren't the only dangers for surfers.

— Dave Etrheim

Air Education and Training Command Ground Safety Division

CAR SURFING MAKES AIRMAN

HOWL

In the 1988 movie “Teen Wolf,” Michael J. Fox popularized “car surfing” — standing on the top of a van in a surfer’s stance while his friend drove him through the town howling at the top of his lungs.

While this activity looked fun and exciting on screen, it didn’t translate as well to real life. According to the Center for Disease Control, nearly 100 people died or sustained serious injuries as a result of car surfing from 1990 to 2008.

A recent Air Force mishap illustrated that point. While Airmen involved in this mishap didn’t appear to intentionally try to car surf, it still demonstrates the dangers of horseplay while operating nearly two tons of steel.

As two Airmen were getting in a car, the driver decided to have a bit of fun. He locked the doors and “gunned” the gas.

After the third time, the spurned Airman decided he’d had enough “fun.” He jumped on the roof of the car.

But this only encouraged his “friend” to drive faster. The Airman held on for about 125 feet, “howling” at the driver to slow down. Laughing, the driver looked into his rearview mirror just in time to see his wingman bounce off asphalt.

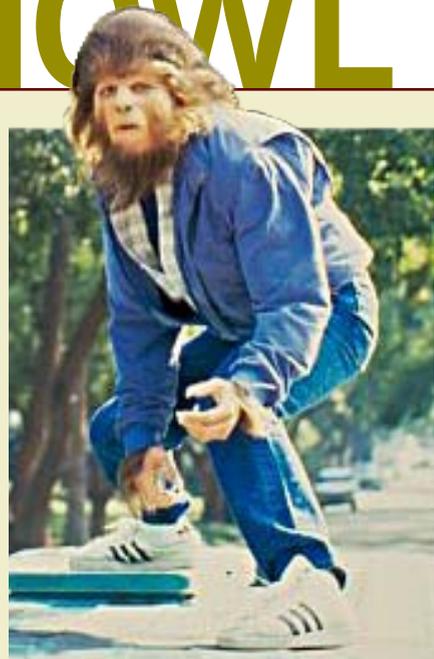
Suddenly, the horseplay wasn’t nearly so funny.

A helicopter medevaced the injured Airman to a critical care unit. He sustained multiple head injuries to include a 5.5-inch cranial fracture (starting from the lower rear of the skull and ending above his right ear), bleeding in both frontal lobes, a ruptured right eardrum, and short-term memory impairment. He faced a long-term treatment plan to eventually return him to unrestricted duty.

Fortunately he survived, but Teen Wolf he was not.

— Robbie Bogard

Air Education and Training Command Ground Safety Division



COURTESY MGM STUDIOS

This famous scene in the 1988 movie “Teen Wolf” — car surfing on a van — unintentionally inspired some copycat incidents that ended in tragedy.

LIPOSUCTION

SURGERY NOT AN OPTION FOR AIRMEN LOOKING TO PASS PT TEST

MACDILL AIR FORCE BASE, Fla. — Liposuction, a popular shortcut to a leaner body, might turn into a shortcut to a leaner paycheck, loss of rank or a career-ender for Airmen.

The cosmetic procedure is not an acceptable solution to trimming inches or weight to meet physical requirements, said Lt. Col.

(Dr.) Dave Simon, chief of the medical staff for the 6th Air Mobility Wing. In short, because of the health and safety risks, trying to make tape via liposuction is not something the Air Force will ever sign off on, the doctor said. And “sneaking” off to have the procedure done could not only lead to a ding on one’s Air Force career, it could hamper readiness, health and safety, or otherwise interfere with the duties of Airmen and jeopardize the mission.

“I can’t foresee any situation in which it would be approved,” said Lt. Col. (Dr.) Terry Haag, chief of Aerospace Medicine at MacDill. “It’s cosmetic and elective, and not something you have to have done.”

The primary concern for Air Force leadership is that with physical fitness requirements becoming more stringent and the emphasis on being “fit to fight,” Airmen worried about that little extra around the middle will be tempted by the promises of liposuction.

The bottom line, however, is liposuction is a surgical procedure, which has risks, requires a recovery period and potentially renders an Airman-patient unable to perform at peak level.

“Infection is the biggest concern,” Haag said.

Additionally, liposuction doesn’t make a person more fit, the doctor said. Unless a lifestyle change is made, such as adjusting the diet or exercising more or more effectively, the weight removed with liposuction is bound to return in short order, he added.

“There are no shortcuts to physical fitness and better health,”

Haag said. “It’s something that requires work and discipline.”

From an Air Force standpoint, a ready force able to deploy in short order is a priority, which is why any elective surgery has to be approved by a unit commander and medical staff. It also is why there can be severe consequences for Airmen who have elective surgery done without prior clearance.

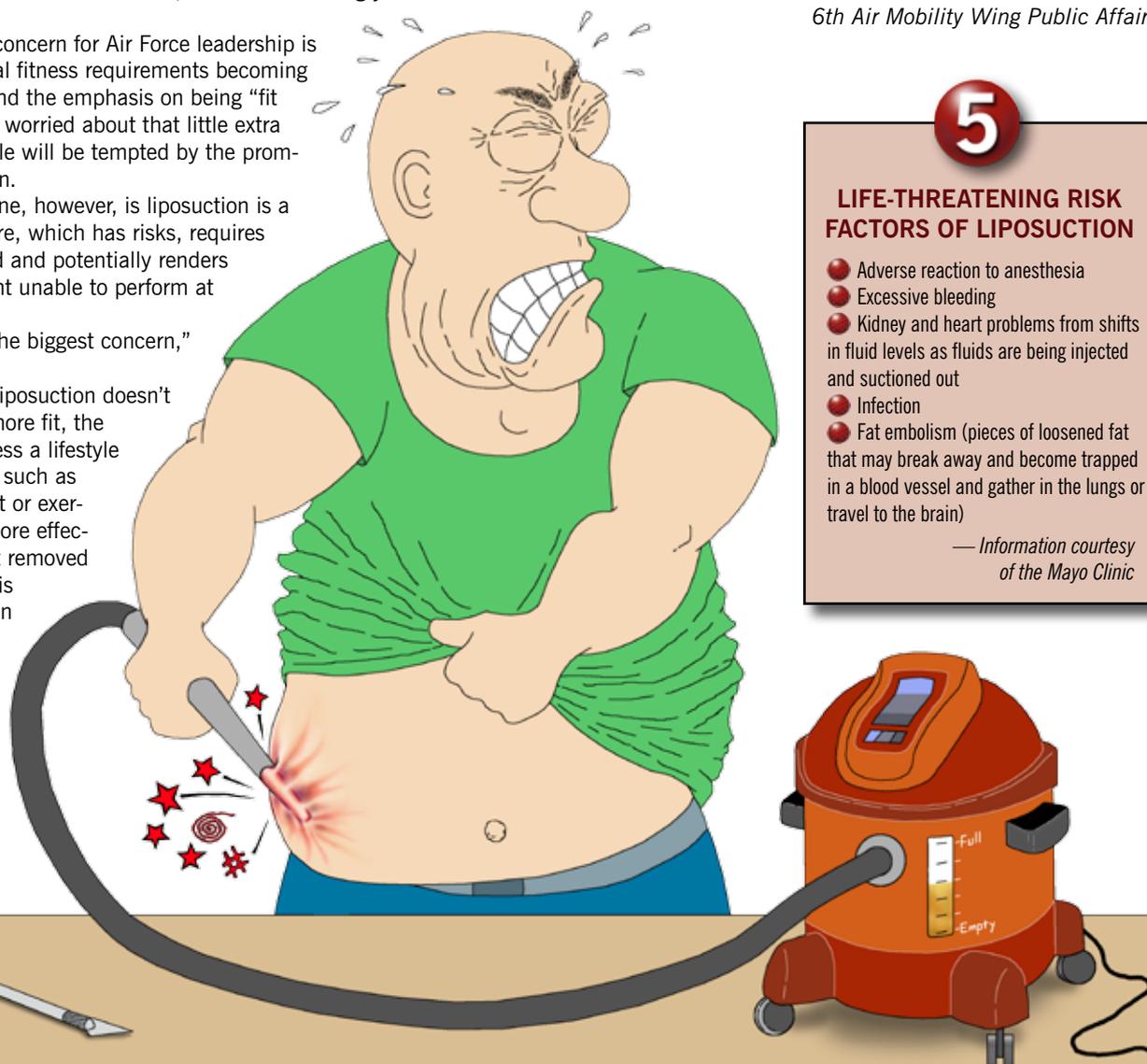
“Because of the health and safety risks, trying to make tape via liposuction is not something the Air Force will ever sign off on. ... There can be severe consequences for Airmen who have elective surgery done without prior clearance.”

Disciplinary action for Airmen who have surgery done without command or medical approval can lead to anything from a letter of reprimand to an Article 15 or even a court martial under Article 92, dereliction of duty, said Capt.

Joey Smith, chief of Military Justice in the 6th AMW judge advocate office.

The action taken depends on the Airman’s history, as well as the commander’s discretion, Smith said. Among the options could be loss of pay, loss of rank and even discharge.

— Nick Stubbs
6th Air Mobility Wing Public Affairs



5

LIFE-THREATENING RISK FACTORS OF LIPOSUCTION

- Adverse reaction to anesthesia
- Excessive bleeding
- Kidney and heart problems from shifts in fluid levels as fluids are being injected and suctioned out
- Infection
- Fat embolism (pieces of loosened fat that may break away and become trapped in a blood vessel and gather in the lungs or travel to the brain)

— Information courtesy of the Mayo Clinic

BY SAMMIE W. KING

It's Personal



By Gen. EDWARD A. RICE

As commander of Air Education and Training Command, when someone in our AETC family hurts, I hurt. That's why I take mishap prevention and resiliency so seriously.

For me, *it's personal*.

Last summer when the tire blew out on an Airman's vehicle causing it to roll, he was ejected from the car because he had neglected to fasten his seat belt.

He died from his injuries, leaving behind a grieving family, many friends and coworkers.

It's personal.

Only two days later, another Airman was distracted while driving after his cell phone fell off of his lap and he reached to pick it up. That split-second distraction caused him to cross the centerline and collide head-on with an ambulance. He died, as did two of his civilian passengers — all of whom had family and friends who shed countless tears in mourning their loss.



FILE PHOTO



PHOTOS BY TECH. SGT. MATTHEW HANNEN



It's personal.

When an instructor pilot ignored the rules by texting while flying and performed an unauthorized fly-by, he endangered himself and risked the life of his student.

It's personal.

And it's not just ground mishaps or lapses in flight discipline claiming the lives of our loved ones. Last year, six AETC family members became so distraught that they saw no other way to alleviate their burdens, so they took their own lives. These people weren't just statistics; they had mothers, fathers, sisters, brothers, spouses and children who still miss them so dearly that it hurts.

Yes, it's personal.

People sometimes erroneously draw the conclusion that those who cause mishaps or take their own lives were prob-

ably underachievers or mediocre workers. But in actuality, most of the people we lost to suicides and mishaps last year were extremely good or even stellar performers. ... But, aren't top performers supposed to be resilient?

Well, being resilient isn't just about job performance. Nor is it just about preventing mishap fatalities and suicides. Resiliency is mental, social, physical and spiritual well-being that propels our everyday lives. It leads us to prosper, make good decisions and overcome adversity. It's eating right, sleeping well and exercising. It's spending time with family and friends. It's job satisfaction. It's finding that necessary balance in your life that helps you cope with virtually any situation thrown your way. It's the peace of mind of knowing and trusting that you can lean on family, friends and your

wingmen when situations seem desperate or things seem their lowest.

Our service members are facing frequent deployments, increased operational demands, budget and personnel cuts, and dramatic changes in the way we do business. After serving in combat locations, many come home having to reintegrate into their family life. Our ability to handle these stressors is going to determine our short- and long-term effectiveness. To that end, the Air Force launched the Comprehensive Airman Fitness initiative to reinforce resilience training principles and offer more help and guidance to our personnel. It's not only about encouraging members to find the courage and talk about their problems, but also for their wingmen to truly listen and stay attuned to those around them.

Around AETC, we are making strides along those lines. Goodfellow Air Force Base, Texas, has set up a "Cup of Prevention" — a mental health staff monthly visit to units with coffee and resilience tips. Keesler AFB, Miss., offers a weekly DUI prevention briefing called "Drunk Busters." Laughlin AFB, Texas, holds an annual adventure race. Luke AFB, Ariz., sponsors a spouse talk and tour. And Randolph AFB, Texas, conducts the "Wellness Wars." These types of programs are going on throughout the command.

Additionally, AETC launched the Air Force Virtual Wingman Smart Phone Application, which with the touch of a finger allows you to access such helpful tools as the suicide prevention hotline, risk management guidance, and an Airman's guide for assisting personnel in distress, to name a few.

But these initiatives only work if we take advantage of them.

So as we head into that high-risk time of year known as the Critical Days of Summer, let's commit to improving our resiliency by evaluating our own mental, social, physical and spiritual well-being. Let's maintain our focus. Let's work to strengthen our relationships — whether with a spouse, a friend or a co-worker. Let's make a pact to be the best Airmen, the best wingmen. Let's look out for one another.

Let's all take it personally. ✈



FILE PHOTO

Brain Busters

From pro football and improvised explosive devices, to vehicle mishaps and falls, traumatic brain injuries are nothing to fool around with

By **DR. HELEN PHIPPS**
Illustration by **LISA CYMMER**

When former pro football line-backer Junior Seau committed suicide May 2, wide speculation ensued that Seau's demise had been spurred on by head trauma sustained in his violent sport. Seau's death brought national attention to the fate of more than 20 other ex-players, who, after their deaths, were found to have brain damage caused by repeated concussions, which led to depression and other problems.

On Feb. 17 in a suicide eerily similar to Seau's, former Chicago Bears defensive back Dave Duerson shot himself in the chest. Unlike Seau, though, Duerson left a note behind requesting that his brain be examined. Boston University's Center for the Study of Traumatic Encephalopathy examined Duerson's brain and concluded he had, indeed, suffered from head trauma and was diagnosed with a brain disease.

Now comes the scary part. ...

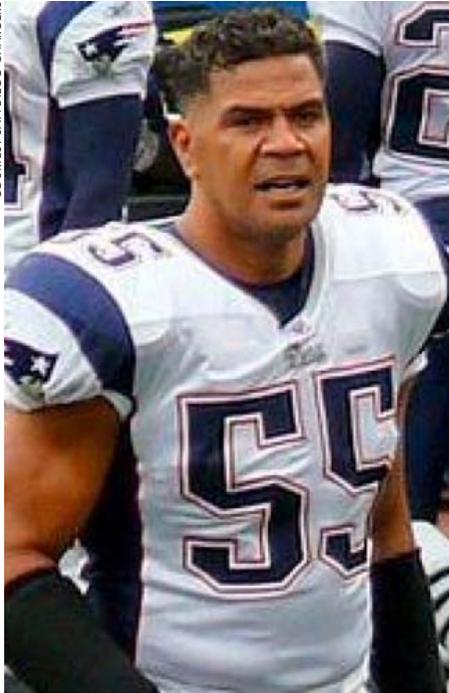
Airmen have something in common with football players.

Imagine yourself in a convoy across Kandahar, Afghanistan. Suddenly, the mine resistant ambush protected vehicle you're in jolts violently, and a flash of light from a roadside improvised explosive device temporarily impedes your vision. As your vision clears you notice the outside of the vehicle is significantly damaged, but the inside is intact and thankfully so are the occupants. ... Or so they seem.

However, if you were able to view a single occupant's organ systems and delve farther into the microscopic world, you would likely see inflammatory proteins skyrocket and trigger cascades of cell death. This is one of many scenarios that may lead to traumatic brain injury.

According to the assistant secretary of Defense, TBI is defined as, "...structural and/or physiological disruption of brain function as a result of external force. ..."

While improvised explosive devices are the primary cause of combat TBI, falls and auto accidents are leading causes of TBI outside of combat. However, the true incidence of mild TBI is difficult to determine since it often goes unreported. Mild TBI is commonly



When Junior Seau committed suicide May 2, many suspected the former San Diego Charger had suffered from severe depression brought on by brain injuries sustained in professional football.

Starting with detonation of an improvised explosive device near an armored vehicle, this illustration demonstrates the dramatic progression of one potential source of traumatic brain injury – from the violent explosion to cellular damage in the brain from the concussion.



Categories of Traumatic Brain Injuries

Mild

- ✦ Loss of consciousness for less than 30 minutes
- ✦ Alteration of consciousness for up to 24 hours
- ✦ Amnesia for less than or equal to one day
- ✦ Glasgow Coma score of 13-15

Moderate

- ✦ Loss of consciousness for more than 30 minutes, but less than 24 hours
- ✦ Alteration of consciousness for more than 24 hours
- ✦ Amnesia for two or more days, but less than seven days
- ✦ Glasgow Coma score of 9-12

Severe

- ✦ Loss of consciousness for greater than 24 hours
- ✦ Alteration of consciousness for more than 24 hours
- ✦ Amnesia for seven or more days
- ✦ Glasgow Coma score of 3-8

SOURCE: DOD/TBI/TASKFORCE, 2008

known as concussion and may occur in contact sports such as fighting or football and even non-contact sports such as cycling, cheerleading or skiing.

Most who sustain a concussion recover fully within days to weeks, but it is still important to be evaluated immediately. Since signs and symptoms are not always severe, family and friends often notice changes before the injured person does. This makes it all the more important for everyone to be familiar with the signs and symptoms of concussion.

Signs and symptoms immediately after an event that may indicate TBI include headaches with ongoing ringing in the ears, heightened sensitivity to sounds and/or lights, ongoing visual impairment, trouble sleeping, and memory loss.

Our brain cells take longer to recover than most body parts and if severely damaged may not recover at all. Sustaining a second concussion before recovery from

the first may lead to more severe symptoms with prolonged recovery, and in rare circumstances can produce diffuse swelling of the brain with dire effects.

Luckily, for those heading to combat zones, the Air Force has policy and procedures in place to develop an individual baseline of wellness and readiness of service members before deployment and after sustaining TBI.

But how can the average person prevent TBI?

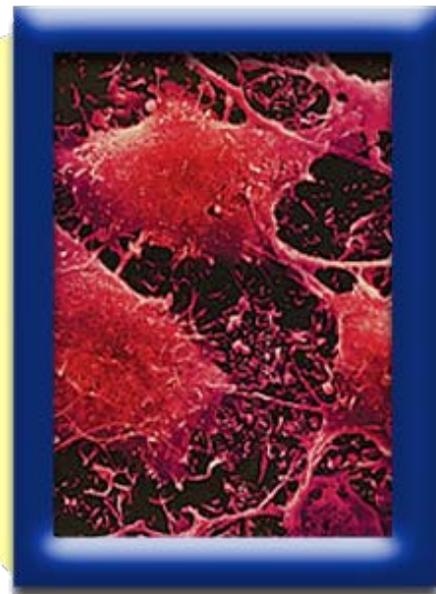
Avoid distractions on the road to help lessen the chances of a vehicle mishap. Wear a helmet when riding motorcycles. Athletes may lessen their susceptibility by anticipating hits and bracing for them with stronger muscles.

Some sports teams are using helmets with sensors that notify someone on scene when players sustain a hit likely to cause concussion. However, athletes' desire to compete sometimes outweighs the

need to wait until enough time passes to allow for repair. The American Academy of Neurology's position on sports and concussion recommends return to play no earlier than one week for concussions with symptoms lasting longer than 15 minutes and/or any loss of consciousness and a physician evaluation prior to return.

To prevent traumatic brain injury, avoid physical trauma, drive safely, and improve strength, balance, lighting and cleanliness. And if you do suffer physical trauma — whether in sports, combat, on the road, in recreational activities or from a fall — watch for symptoms and see a doctor. Don't let things get worse. 🦋

Dr. Phipps provides contract support as a scientist to the Air Force Emergency Management Branch, Headquarters Air Force Civil Engineer Support Agency, Tyndall AFB, Fla. She has a Ph.D. in biomedical science with an emphasis on traumatic brain injury. Maj. Laura Baugh, Air Force Traumatic Brain Injury Program manager, contributed to this article.



A TEXT TO DIE FOR.

Young woman slams into tractor-trailer while texting love notes to boyfriend

By **TIM BARELA**

Photo illustration by Tech. Sgt. **SAMUEL BENDET**

When a woman died in a car crash while texting love notes to her boyfriend earlier this year, a grieving Canadian man turned to Facebook to make an emotional appeal to all who would listen: Don't text and drive.

Mathieu Fortin created his Facebook page to warn others to avoid the same fate as his beloved Emy Brochu, 20. She perished Jan. 18 after her car slammed into the back of a tractor-trailer truck as it merged with traffic near Victoriaville, Quebec. Fortin titled the page, "Share this if it touches you! I love you Emy ... XOXO" and posted the texts they shared right before Brochu crashed.

The series of texts had Fortin expressing his love for Brochu before receiving her last text, which read (translated from French), "I love you too, and I will do all I can to make you happy."

Next Fortin tells her that he can't wait to get home from work so that he can "hear her beautiful voice" and "kiss her." Then the texts take on a different tone as Fortin grows increasingly alarmed that he hasn't heard from Brochu in a few hours.

"Is everything going well, my love?" Fortin wrote. "I'm a bit worried."

"The police investigation showed the use of a cell phone while driving was the cause of the accident," Fortin said on Facebook. "This conclusion came as a shock because during the tragedy, I was in a discussion with her."

Fortin says that reading the last messages "shatters my heart into a million pieces."

He urges others to pay heed. "An accident can happen quickly," he wrote. "I hope every time you look at your cell phone while you're driving, you think of Emy and those who loved her. ... At what time is a text or an e-mail more important than life itself? At what point is something on your phone more important than the people who you love?"

According to the National Safety Council, cell phone use is involved in at least 24 percent of all vehicle crashes.

"Texting is a two-way street," said John Foreman, Air Education and Training Command Ground Safety Division. "Yes, the driver has responsibility not to text and drive. But if you are exchanging texts with someone who you know to be driving, you are putting their life at risk. You share in that responsibility."

Fortin agrees and said he is struggling to overcome the guilt for the role he played in the accident.

Fortin describes Brochu as a joyful, determined woman who had a wonderful future ahead of her.

On the Facebook site, he implores people to pass on his message to others. He said even if people don't kill themselves while texting and driving, they could kill someone else — like a child crossing the road.

Fortin's posts generated dozens of responses from those expressing sympathy and promises to share his message.

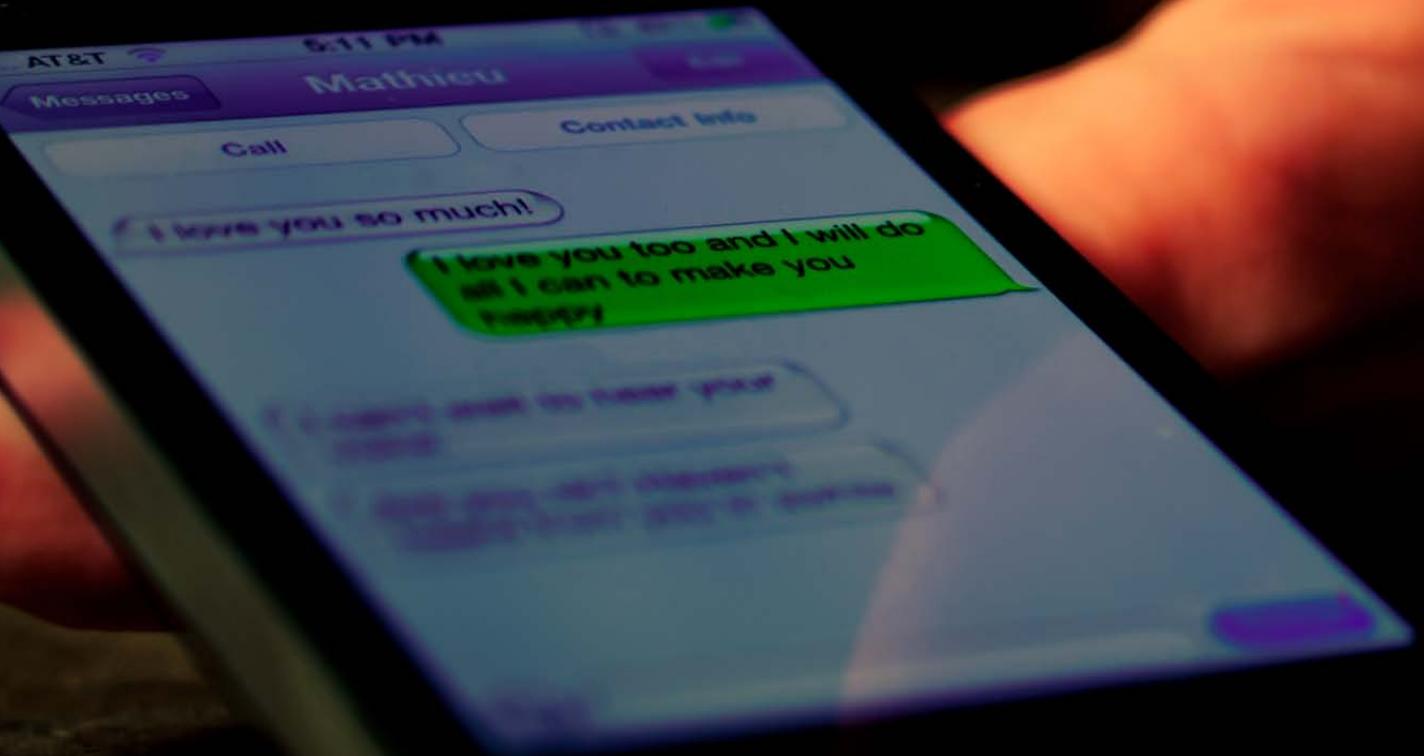
"Be sure that from today, I never will text while driving," wrote Kéleann Decarie in a Facebook post on Fortin's site. "Thank you for sharing with us even though it's hard for you." 🙏





COURTESY PHOTO

Mathieu Fortin created a Facebook page and posted this photo of himself with his girlfriend Emy Brochu, who died Jan. 18 when her car slammed into the back of a tractor-trailer truck as it merged with traffic near Victoriaville, Quebec. Brochu was texting Fortin at the time of the accident. The Facebook page, a series of heart-wrenching text messages, is being used by Fortin to warn people to pay attention when driving.



TROUBLED WATERS

By **TIM BARELA**
Photos by Tech. Sgt. **SAMUEL BENDET**

As a Torch magazine designer for the past 17 years, Dave Stack has helped produce hundreds of heartbreaking tales to share the lessons learned with readers. Then, he found himself at the center of one of those stories. Four years after losing his grandson to a drowning accident, he and his family are still trying to cope with the tragedy.

A year after their grandson drowned in Canyon Lake, Texas, Dave and Loida Stack visited the mishap site and placed red roses they had cut from their garden in the water.





“I sent him away to die!” sobbed Loida Stack as a single tear slowly rolled down her cheek. With red-rimmed eyes, her husband Dave gently squeezed her hand and opened his mouth as if to say something, but the words didn’t come. He slumped his shoulders and leaned back in his chair. How many times had he heard these tortured cries from his bride of 34 years? A hundred? A thousand?

“The truth is,” he sighed, “we both feel responsible for Jerry’s death.”

Jerry Madrigal is their grandson who drowned July 28, 2008, while on their watch at a family excursion to Canyon Lake — less than an hour from their home in San Antonio. A freshman at San Antonio’s Lee High School, he was 15 years old. Jerry, his 14-year-old sister, Myya, and his 13-year-old cousin, Alyssa Santana, accompanied their grandparents to the Army marina at the lake, as they had every year for the past decade.

“They loved the lake — especially Jerry,” said Dave, who since 1995 has worked at Randolph Air Force Base, Texas, as a designer on *Torch* magazine. “When they were little, we never took our eyes off them for a second. But as they got older and reached the teen years, I guess we’d gotten more comfortable and become more complacent.”

Jerry, who had been diagnosed with autism when he was 4, had been hanging out with his grandma under a pavilion near the beach, where she was preparing lunch. He was hungry — like always — and kept bugging her about when the meal would be ready.

“I finally told him, ‘Jerry, go play with the girls in the water. I’ll call you when lunch is ready.’ ... I wish I would have just let him stay,” Loida said, breaking down in tears again.

She watched her grandson trudge slowly toward the water in the horseshoe-shaped bay, stopping occasionally to pick up a shell on the beach. Then she refocused her attention on the grill full of steaks, bratwurst, hamburg-

ers and hotdogs. Dave stayed near Loida, helping around the campsite. They could hear the kids splashing, laughing and playing. But less than 10 minutes after Jerry had entered the water, the sounds of fun and frolic abruptly changed to shrieks of horror.

Dave and Loida looked toward their grandchildren. Alyssa was screaming and pointing. Myya frantically tried to run through the water toward them. And Jerry ... *Jerry had disappeared!*

Pushed by fear and primal instinct, Dave, who turns 65 in October, started sprinting toward the water at a pace he would have had trouble matching even 30 years ago. He entered the lake still fully clothed. He knew from reading safety articles he’d designed that wearing clothes in the water could weigh a person down and become a drowning hazard. But that was the furthest thing from his mind at that moment. His frenzied assault on

the water only came with one frantic thought: *Get to Jerry fast!*

“I had difficulty moving through the water; my legs and my lungs were burning,” Dave said. “But I could hear the girls screaming, ‘Jerry went under! Jerry went under!’ And sheer panic helped me fight through the exhaustion.”

As he reached the hysterical teens, whose shrieking and crying made them almost inaudible, he shouted, “Where is he?!” The girls pointed to where Jerry had submerged, and Dave dove into the dark water.

“I kept going under water but was having no luck,” he said. “The lake was already murky, but it had gotten even worse because the sand was all churned up from where they had been playing. I couldn’t see a thing.”

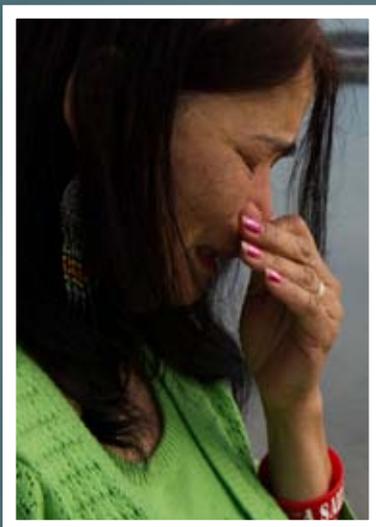
Dave searched the surface of the water for bubbles or any other signs of where his grandson might be. He could still hear the girls sobbing uncontrollably and Loida, who also had entered the lake, screaming,

“Find him! Oh God, find him!”

“I’m in the water up past my chin, and I’m not that great a swimmer,” Dave said. “I’m not seeing or feeling a thing. So I start hollering for help.”

Not that many people were at the lake that day, though. As a matter of fact, when the family had pulled into the picturesque marina, Loida had boasted to her grandson, “Look, Jerry, this is our lake! We have it all to ourselves.”

The Stack’s 17-year-old son, Lawrence, who had



Loida says she still has nightmares about the day her grandson drowned. She said there are triggers that bring both happy memories and dark ones. She often visits his grave site. “If I could trade places with him, I would,” she said.

“It was like a nightmare when we couldn’t find him. I thought heaven had collapsed on me.”

been on a walk with his girlfriend, suddenly arrived at the shoreline on a dead run as he had heard the commotion. When his parents told him Jerry had gone under, Lawrence swam out to the area where his nephew had disappeared and dove again and again. Meanwhile, two workers from the boat docks heard the family’s cries for help and brought out a boat and a long pole to search the lake bottom. Then a young lady showed up and also joined the search by diving into the lake.

At that point, a physically and emotionally exhausted Dave huddled in the water with his wailing wife and granddaughters.

“I was sick with fear, worry, grief and a feeling of total helplessness,” Dave said. “I had to console my wife and try to get the kids to come in so no one else would drown.”

Drown.

He found the word too horrific to verbalize. But it had been 15 or 20 minutes since Jerry had disappeared in the dark waters. And Dave knew it was impossible for someone to hold his breath for that long.

Lawrence, who had also jumped in the water fully clothed, had made too many desperate dives to count. His parents realized he’d become dangerously fatigued and were relieved to see the marina workers throw a life preserver to him.

The young woman also had to stop her search, and the two men in the boat had turned up no signs of their grandson.

Dave held his distraught wife and could barely whisper the words ... “He’s gone.”

“No!” Loida screamed at the top of her lungs. “He was just there! He was just right there! I can see it! Not my Jerry!”

Not Jerry, who was shy but always happy.

Not Jerry, who even as a teenager still got excited to see his grandparents.

Not Jerry, who would talk his grandpa’s ears off about foreign languages and carried around tattered books on Japanese, Russian, French, German, Filipino, Latin, Vietnamese and more.

Not Jerry who had a fascination with electronics and

even as a young boy would hang out with grandma in the kitchen and reprogram her microwave oven.

Not Jerry, who loved his grandma’s pancakes so much she could hardly cook them fast enough to keep up as he gobbled them down.

“It was like a nightmare when we couldn’t find him,” said Loida, her hand trembling as she wiped her eyes. “I thought heaven had collapsed on me.”

As rescue divers arrived and began scouring the lake bottom, Dave and Loida faced the unthinkable task of having to tell their 35-year-old daughter, Melanie, that they’d lost her only son.

Melanie arrived at the lake nearly two hours later. Overcome with grief, she fainted and collapsed near the water’s edge as her family tried to comfort her. It took two and a half hours to find Jerry’s body.

“When the divers carried him out of the lake, he

just looked like he was sleeping,”

Dave said. “He was pale, but other than that he looked perfect. So even though deep down you know it’s impossible, your mind starts playing tricks on you. ... There’s that flicker of hope that maybe he will take a breath.”

But reality would soon set in.

The divers worked on Jerry for several minutes before finally giving up and pronouncing him dead.

Through anguished moans, Melanie cried, “My baby!”

Then she collapsed again.

“That’s a scene my wife and I will probably live with until we take our last breath,” Dave added, as his voice cracked and he hung his head, looking down at the floor. “We are responsible. Our daughter left Jerry in our care, and we were supposed to return him safely.”

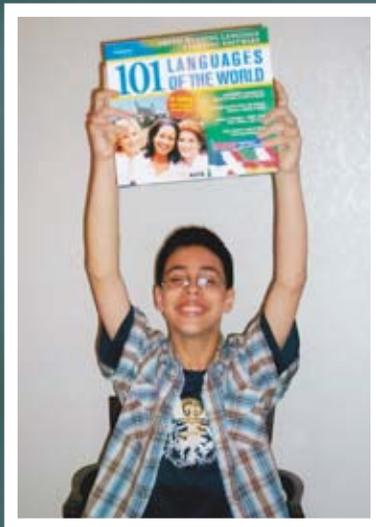
Melanie never lashed out at her parents ... never blamed them, according to Dave.

“But deep down we know she probably feels we could have done some things better to protect her son,” he admitted. “We have beaten ourselves up over the years. We carry an incredible amount of guilt about the things we should have done differently.”

That’s one of the reasons they wanted to open up about the drowning.

“For a couple of years, we were too traumatized — too tormented — to talk about it,” Dave said. “Now we want to help ensure what happened to us doesn’t happen to others. We owe that to Melanie ... to Jerry.”

Dave said the first regret they have begins long before



COURTESY PHOTO

Diagnosed with autism at age 4, Jerry Madrigal, who was 15 when he drowned in Canyon Lake, Texas, loved foreign language books and electronics. His family says he was shy but always happy.

“We are responsible. Our daughter left Jerry in our care, and we were supposed to return him safely.”

they ever made that last haunting trip to the lake.

“I wish we would have taught them to swim,” he said. “They had swim lessons, and I worked with them a little when they were younger, but they never really got proficient with it. And my wife and I were never good swimmers either.”

He also wishes they had taken flotation devices.

“Especially in lakes, where there can be hidden drop-offs and visibility in the water can be poor, it’s a good idea to have flotation devices,” Dave said. “The girls told me that Jerry had been standing there one minute, but then hit a spot where he couldn’t keep his head above water and panicked. Myya tried to grab him, but he slipped through her fingers. I can’t imagine the terror she and her brother must have felt at that moment.”

Next, he laments not talking to the teens to remind them about some of the risks and dangers before they stepped in the water.

“That’s a conversation I wish we would have had,” he said. “I wish I would have told them to look out for each other, stay away from the deep end and no horseplay. They had definitely gotten too close to the deep part of the marked area, and they had been horsing around, taking some risks they shouldn’t have been with their limited swimming ability.”

Most of all, Dave and Loida wish they had never gotten distracted preparing lunch and complacent because the children had gotten older.

“At least one of us should have stayed with the kids and kept a closer eye on them,” Dave said. “We could have told them when they were getting too far out. We could have reacted faster if something did happen. Things can go so wrong, so fast.

In the water, even adults should have a buddy looking out for them.”

Not long after Jerry’s death, a 21-year-old co-worker of Loida’s also drowned in Canyon Lake. Of the more than 4,000 U.S. people who drown each year, victims age 13 or older tend to lose their lives in lakes, oceans, rivers and streams, according to the Aquatic Safety Division of the American Safety and Health Institute.

“I get knots in my stomach every time I hear someone is going to the lake,” Loida said, holding her mid-section. “I always ask them, ‘Do you have life vests?’ A lot do but only for the little kids. I tell them you need them for the big kids too.”

Loida has struggled to find peace.

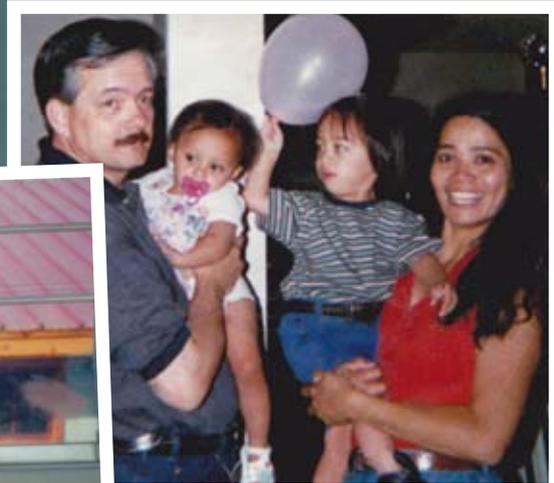
“I was angry with God and cursed that damn lake,” she said.

But most of all, she was angry with herself.

“My husband, my kids, my friends, my pastor, doctors ... they all say I couldn’t have known what would happen when I sent Jerry to go play in the water. But the moment plays over and over in my head like a broken record,” she said. “I still have nightmares about it. ... I miss him so much.”

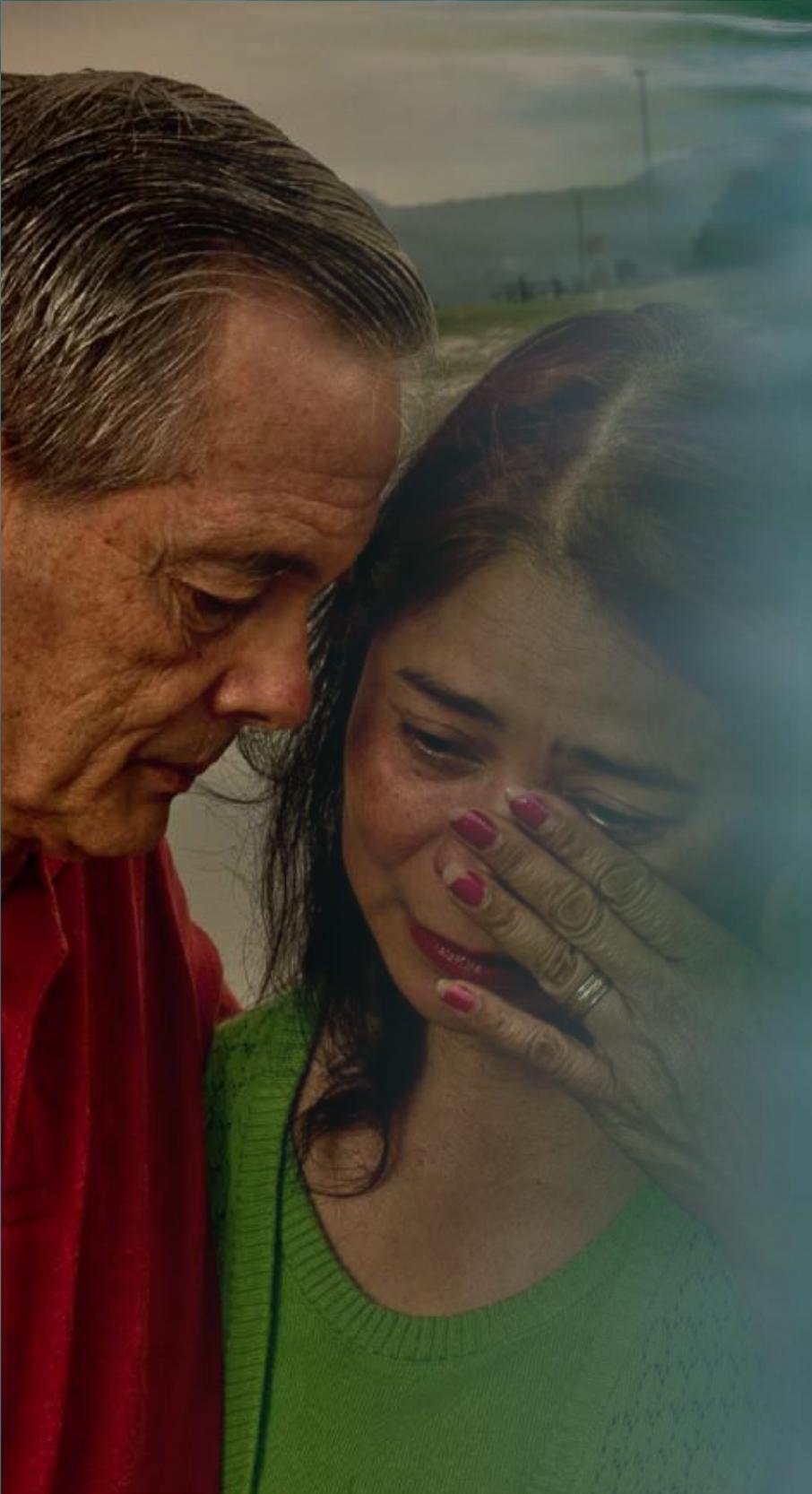
Dave said that while the tragedy “knocked them down,” he and his wife are slowly healing and are trying to honor Jerry’s memory by focusing on the happy times they had together and sharing their story to help others avoid the same fate.

“Working at this job in safety and doing so many stories on tragedies people suffer, I now understand more what they go through,” he said. “But I never thought for a second that my family would become one of those stories. ... I never want to be a part of one again.” ✨



COURTESY PHOTOS

Above, proud grandparents Dave and Loida hold Jerry and Myya when they were just toddlers. At left, Jerry, as a pre-teen, shares a happy moment with his mom, Melanie, and his sister, Myya, who was with him at the lake.



A WARNING FROM GRIEVING GRANDPARENTS

Dave and Loida Stack felt they made some mistakes that contributed to their grandson's drowning death. Here are five water warnings, any one of which could have saved their grandson's life. They hope people take them to heart.

1. Teach yourself and your children to swim, and learn a survival float, as well.

Take swim lessons.

2. Use a flotation device — especially in lakes, oceans and rivers, where poor visibility, drop-offs and currents add to the danger. Life vests are not just for little kids; older kids and adults need them as well.

3. Talk about the risks each and every time you and your loved ones enter the water. Set limitations, and remind everyone to keep an eye on each other.

4. Don't get distracted by other activities, such as grilling or setting up camp, and allow that to divert your eyes from those in the water.

5. Don't get complacent just because you are dealing with older kids or adults.

Everyone who enters the water needs a buddy who watches their back.

— Tim Barela

To anyone who will listen, Dave and Loida warn of the dangers posed when swimming in lakes, oceans or rivers. They say they owe it to Jerry to spread the word.

'Everything I Know About Flying'

Air Force's oldest instructor pilot gives his perspective

By Lt. Col. **GORDON P. KIMPEL**
Photo by Master. Sgt. **MARVICE KRAUSE**

Everything I know about flying can be summed up in two words: control and performance.

I'll never forget an air show performance flown by the very talented and famous Bob Hoover at Vance Air Force Base, Okla., in a direct 30-knot crosswind. Hoover flew a spectacular aerobatic profile in his P-51 Mustang, somehow maintaining a precise show line up and down the runway. He ended his demonstration with an engine out loop to a dead stick landing on one wheel, wing up into the wind so he could wave to the crowd!

But that was only half the show.

Hoover then took off in his twin-engine Rockwell Aero Shrike Commander and duplicated the Mustang's performance, including the engine out loop to a dead stick landing on one wheel facing the crowd. Only when you factor in the challenging weather conditions, the significantly different aircraft types and the dead stick landings do you begin to grasp the magnitude of Hoover's incredible pilot skills to achieve such a memorable performance.

Hoover had become a pilot who had complete mastery of control and performance flying.

While assigned to the F-15 Eagle, my squadron endured long deployments involving multiple air refuelings. It was standard for the flight lead to assess a penalty to any pilot in the formation who failed to stay "on the apple," or even worse, fall off the boom. At the cost of having to buy multiple rounds or shaving your cranium, Eagle drivers were very motivated to stay in the contact position. This is the essence of control and performance.

One of the many challenges of instructing specialized undergraduate pilot training students is providing them with a common thread they can relate to all phases of their flying training. For many students, SUPT can seem overwhelming considering their syllabus encompasses transition, instrument, navigation, forma-

tion and low-level training in multiple aircraft. The concept of control and performance is that common thread.

Control and performance is the core of all flying. Whether it is the classic condition of instrument flight, tactical formation or traffic patterns, achieving a desired performance is the direct result of precise pilot control input. It is a fluid process that requires constant performance analysis and timely control adjustments — more commonly referred to as a "crosscheck."

“It was standard for the flight lead to assess a penalty to any pilot in the formation who failed to stay ‘on the apple,’ or even worse, fall off the boom. At the cost of having to buy multiple rounds or shaving your cranium, Eagle drivers were very motivated to stay in the contact position.”

The pilot controls power with the throttle and attitude with the stick, rudder and, occasionally, the speed brakes. He evaluates performance by reference to not only the performance instruments, but also to external visual cues and "seat of the pants" (think airframe buffet). The performance instruments and/or external visual cues indicate the results of pilot control input.

Instrument flight is the classic applica-

tion of control and performance flying. The pilot applies known pitch and power settings to achieve a desired performance. He can make precise climbs, descents and course changes using specific control inputs. The resulting performance is a function of how efficient his crosscheck is at recognizing the need for control adjustment.

Ever wonder why a Category III instrument landing system approach to 600 runway visual range must be flown with autopilot engaged? It's because the autopilot computer can make those adjustments one hundred times a second ... considerably faster than the best pilot. Therefore, when hand flying, it is the combination of hand/eye coordination and knowledge that yields superior performance. The pilot who knows precisely what performance he desires and couples that knowledge with an effective crosscheck will be able to make more timely control inputs and successfully arrive at published approach minimums on course, on glide path, with the runway touchdown zone in sight.

Transition training teaches the student pilot both performance and aircraft handling characteristics. Stall recovery training teaches the importance of both approach to stall recognition and proper recovery techniques.

Formation flying is primarily a visual event, especially when flying the wing position. I like to tell my students that the only difference between them and the Thunderbirds is the T-Birds not only practice daily, but they also train themselves to deviations measured in inches instead of feet — the essence of precision formation flying.

"In position or correcting" is always one of our primary training objectives when instructing tactical formation. This requires the student to constantly apply error analysis relative to his position and then make the proper control inputs required to maintain a briefed formation.

Lead, arguably the more challenging



While serving as an F-15 Eagle pilot, Kimpel would get to test his control and performance skills while doing multiple air refuelings on long deployments.

formation position, requires significant in-flight planning to achieve a desired result. Proper energy management is key to effectively leading a formation profile. And, once again, control and performance are critical to achieving efficient energy management.

The student pilot who has the accumulated knowledge of all previous training in contact and instruments coupled with an efficient formation profile will most likely yield superior performance.

Of all the human factors associated with flying high performance aircraft, task saturation is not only the most common but also the most threatening to effective error analysis or crosscheck. Task saturation leads to channelized attention, which significantly slows down a pilot's crosscheck. Staying focused for too long on only one performance indicator generally results in one or more other performance deviations going unnoticed. The end result is getting "behind" the aircraft. Self-awareness of task saturation is the key to combating channelized attention and needs to be briefed and debriefed on every mission.

If you're always "on course, on glide path," then you've already mastered

control and performance flying. However, most of us mere mortals have to constantly make control input corrections to achieve a desired performance.

One of my favorite sayings is "you're only as good as the information you have." Knowing what to look for is equally as important as knowing where and when to look to accomplish an effective crosscheck. While your crosscheck in the final turn will be different than your

crosscheck on instrument landing system final or tactical line abreast formation, the concept of analyzing your performance to properly adjust your control inputs remains the same. The concept of control and performance flying is the common thread to the many different types of aircraft and phases of flying we encounter not only during specialized undergraduate training but also for the remainder of our aviation careers.✈

Lt. Col. Gordon P. Kimpel is a T-38C Talon instructor pilot with the 50th Flying Training Squadron at Columbus AFB, Miss. At 59, he is the Air Force's oldest active-duty instructor pilot after being recalled as part of the Retired Rated Officer Recall Program. He has more than 3,500 flying hours in the F-15 and F-4 and 600 hours in the T-38. He graduated from undergraduate pilot training at Vance AFB, Okla., in December 1976 and is also a retired Delta Air Lines captain with more than 8,000 commercial flying hours with type ratings in the B-737, B-757, B-767, B-777 and MD-11.



COURTESY PHOTO

OHIO F-16s GO 'GREEN'

ALTERNATIVE FUEL APPEARS TO BE SAFE

By Tech. Sgt. **MARESHAH HAYNES**
Photos by Master Sgt. **JEREMY T. LOCK**

In a joint effort by Airmen from the Air Force Research Laboratory at Wright-Patterson Air Force Base, Ohio, and Airmen from the Ohio Air National Guard's 180th Fighter Wing in Toledo, Ohio, the F-16 fighter jet is currently undergoing a field service evaluation of biofuel.

As the largest consumer of energy in the Defense Department and \$8 billion spent on fuel in fiscal 2011, Air Force officials are working toward making the fleet a little "greener" by researching, testing and ultimately implementing the use of alternative fuels.

Although other airframes, such as the C-17 Globemaster III, have been certified to use biofuel for unrestricted operations, this is the first evaluation of the F-16 Fighting Falcon.

Two F-16s from the 180th FW fleet have been designated to test the 50/50 blend of Jet Propellant-8 petroleum and Hydroprocessed Renewable Jet fuel derived from the camelina plant. Camelina is essentially a weed that grows throughout the United States and requires very little horticulture.

The 180th FW was an ideal location for the fuel test because of its proximity to Wright-Patterson AFB, where the Air Force Research Laboratory is located, and its continued focus on green energy. In 2011, the wing garnered the Reduced Energy Appreciation Program Award from the Air Force Civil Engineer Support Agency's Air Force Facility Energy Center.

"It's part of the Air Force's strategic goals to be able to reduce energy across the Air Force, so we really embrace that," said Col. Steve Nordhaus, the 180th FW commander. "We're trying to do everything we can to reduce energy costs because we know that every dollar we save there, we can use to buy more aircraft that protect our country or help support Airmen who are out there doing critical

missions that affect our homeland defense." The jets have been flying with the blend since mid-December and will continue until the test sample is depleted, he added.

"Our ability to exercise and use this stuff on a small scale or case-by-case basis makes us ideally suited to test the fuel," said Col. William Gieze, the 180th Mission Support Group commander.

The staff at AFRL worked with commercial fuel manufacturers to develop a blend that would meet Air Force specifications. Safety considerations such as the flash and freeze points of the fuel were some of the major factors when determining the specifications for the F-16.

"Manufacturers are making alternative fuels for both the military and commercial customers," said Dr. Tim Edwards, a senior chemical engineer for the AFRL fuels division. "Typically, they'll send samples of their fuel, and we'll evaluate and say, 'Yes, you're on the right track; this could be a jet fuel.' When they get to the point where they can make large enough quantities, we'll hand them off to the Alternative Fuels Certification Office."

The Air Force goal, by 2016, is to have half of the fuel that is purchased domestically to be at least a 50/50 blend of conventional and alternative fuel, Edwards said.

Another goal for the researchers and developers was to make the transition as seamless as possible. To date, there has been no additional training, equipment or maintenance required to begin using the fuel.

"When we first started this we were a little concerned because a few years ago we made the switch from JP4 to JP8 jet fuel," said Col. Scott Reed, the 180th Maintenance Group commander. "The difference between the two caused a few hiccups initially. Some of the gaskets and O-rings didn't expand as they normally would in the presence of the fuel, so we had leaks."

The colonel likened the process to driving a car from

"When we first started this we were a little concerned because a few years ago we made the switch from JP4 to JP8 jet fuel. The difference between the two caused a few hiccups initially. ... But with the new fuel blend, the transition has been totally transparent."

Seeking ways to reduce the Air Force's energy bills, 1st Lt. Brett McNichols checks a fuel sample Feb. 8 at Wright-Patterson AFB, Ohio. Scientists, like McNichols, at the Air Force Research Laboratory analyze fuel samples from all around the world.





BY MASTER SGT. JOSEPH R. STAHL

Two F-16 Fighting Falcons from the Ohio Air National Guard have gone “green” to help find an alternative fuel that is safe, better for the environment and saves money without hindering operational capability.

Los Angeles at sea level to the Rocky Mountains. Adjustments need to be made for the car to operate at peak performance at different elevations. But with the new fuel blend, the transition has been totally transparent.

After each flight, the pilots complete a debrief form and each week the fuels technicians complete a debrief form to provide data to the Alternative Fuels Certification Office about how the jets are performing with the new fuel blend.

And just as in real world operations, the jets designated for the test can refuel from the same tanker as the rest of their fleet during mission. Since biofuels may not be available at every base or some overseas locations, the fuel blend must be interchangeable with standard JP-8.

“The truth of it is there has been absolutely no noticeable difference whatsoever,” Reed said. “There have been no fuel leaks, no operational impact.”

Once all of the data is collected and analyzed and any issues are rectified, the fuel can be certified to be used for all F-16s.

“The fact that we’re going to be doing something that not only affects the Air National Guard, but the total force was really our end goal,” Gieze said. “We really want to see the F-16 get certified on this and allow our country some other avenues for fuel.”

Sergeant Haynes is a writer with the Defense Media Activity. (AFNS)



Fuels specialist Staff Sgt. Chad Lavigne from the 180th Fighter Wing prepares to refuel a F-16 Fighting Falcon with a new biofuel mixture Feb. 12 at Wright-Patterson AFB.

LIGHTNING II GETS THUMBS UP

F-35A BEGINS INITIAL OPERATIONS AT EGLIN



An airworthiness board has deemed the F-35A Lightning II ready to conduct unmonitored flights at Eglin AFB, Fla. Air Force officials say they are confident the aircraft is ready to fly in a safe and efficient manner.

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFNS) — Officials at the Aeronautical Systems Center here issued a military flight release Feb. 28 that will allow the F-35A Lightning II fighter to begin initial operations at Eglin Air Force Base, Fla.

This decision was reached after an airworthiness board conducted an assessment that evaluated potential risks and the corresponding mitigation actions to conduct unmonitored flights.

Flying the Air Force variant of the joint strike fighter will increase pilot and maintainer familiarity with the aircraft, exercise the logistics infrastructure and continue to develop aircraft maturity. These initial F-35A flights will be limited, scripted, conducted within the restrictions and stipulations of the military flight release, and flown by qualified pilots, officials said.

“The Air Force, Joint Strike Fighter Program Office and other stakeholders have painstakingly followed established risk acceptance and mitigation processes to ensure the F-35A is ready,” said Gen. Donald Hoffman, the commander of Air Force Materiel Command, the parent organization of the Aeronautical Systems Center.

“The Air Force, Joint Strike Fighter Program Office and other stakeholders have painstakingly followed established risk acceptance and mitigation processes to ensure the F-35A is ready.”

“This is an important step for the F-35A, and we are confident the team has diligently balanced the scope of initial operations with system maturity.”

The assessment was conducted with airworthiness engineering subject matter experts within ASC and was fully coordinated with the F-35 Joint Strike Fighter Program Office, Air Education and Training Command and other expert participants. The Air Force is confident the aircraft is ready to fly in a safe and efficient manner, Hoffman said.

APPROVED COMBAT MANEUVER LEADS TO F-15 CRASH IN LIBYA

RAMSTEIN AIR BASE, Germany (USAFENS) — U.S. Air Forces in Europe officials released the results of their investigation into the March 21 crash in Libya of an F-15E Strike Eagle as it performed combat operations enforcing the United Nations mandated no-fly zone established for Operation Odyssey Dawn.

The accident investigation board found clear and convincing evidence that the cause of the mishap was the aircraft's sudden departure from controlled flight because it exceeded the critical angle of attack during an Air Force-approved combat maneuver. Other contributing factors to this accident include the pilot conducting an Air Force-wide acceptable maneuver for the F-15E at a previously untested altitude and lateral asymmetry (unbalanced aircraft).



BY AIRMAN 1ST CLASS JAMES RICHARDSON

Both the pilot and weapons systems officer survived the crash by successfully ejecting before the aircraft impacted in an unpopulated area near Benghazi. Remains

of the aircraft were later destroyed so critical systems information and equipment could not be salvaged by foreign forces.

Both the pilot and weapons systems officer were temporarily deployed to Aviano Air Base, Italy, at the time of the incident. Both are members of the 492nd Fighter Squadron, 48th Fighter Wing, Royal Air Force Lakenheath, United Kingdom.

An F-15E Strike Eagle crashed in Libya March 21 after departing from controlled flight when it exceeded the critical angle of attack during an Air Force-approved combat maneuver. Remains of the aircraft were later destroyed so critical systems information and equipment could not be salvaged by foreign forces.

SIMULATOR PROVIDES 'REMARKABLE REPRODUCTION OF AFGHAN AIRSPACE'

KABUL, Afghanistan (AFNS) — Afghan pilots now have a state-of-the-art MI-17 simulator here to hone their aviation skills in a safe environment.

Air Force Lt. Col. Chas Tacheny, the deputy commander of the 438th Air Expeditionary Advisory Group, said he has been involved with bringing the MI-17V5 No-Motion Level 5 Simulator to Afghanistan since July, and he is impressed with the end result.

"In 21 years I don't think I have flown in a better simulator," he said. "Afghanistan has an extremely challenging environment for helicopters. The high altitudes in Afghanistan push the performance envelope of the MI-17."

The colonel said the simulator provides a remarkable reproduction of the Afghanistan air space.

He said it is important that the aviators are able to practice their craft in a low-risk environment.

Instructors are able to recreate numerous types of challenging weather conditions through the simulator. Aviators also are able

to train on night operations using night vision goggles and formation flying. Tacheny said they also are able to practice brownouts during landings, which are one of the biggest risks to aviators in Afghanistan. The dusty climate at Kabul can cause these dust

storms to kick up with no notice and often blind pilots to all of their visual reference points.

These situations have been the cause of a few helicopter crashes in Afghanistan, explained Tacheny, who said being able to practice dealing with a stressful situation in a simulator is invaluable.

"In our history in Afghanistan we have gotten a lot of experience dealing with difficult situations," he said. "We can put before the Afghans those challenging scenarios and not have to worry about hurting personnel and

damaging aircraft. We can repeatedly do this to further develop their capabilities."

— Tech. Sgt. Jeremy Lalee
438th Air Expeditionary Wing Public Affairs



BY VLADIMIR BOTARENKO

A new simulator for the Mi-17 helicopter will help replicate the challenging environment flyers face in Afghanistan airspace. It will provide Afghani pilots valuable practice in a low-risk environment.