Air Education and Training Command's
TORCH
Fall 2012

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2013 TORCH CALENDAR

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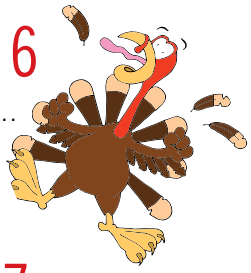

Cover photo by Tech. Sgt. Samuel Bendet
Back cover composite by Sammie W. King

TORCH – the official safety magazine of Air Education and Training Command

Fall 2012
Volume 19, Number 3

TORCH is published quarterly to help promote safety awareness in Air Education and Training Command, the Air Force and Department of Defense. This funded Air Force magazine is an authorized publication for members of the U.S. military services. Contents of **TORCH** are not necessarily the official view of, or endorsed by, the U.S. Government, the Department of Defense or the Department of the Air Force. The editorial content is edited, prepared and provided by the Directorate of Safety, Air Education and Training Command, Randolph Air Force Base, Texas, following public affairs publication guidelines outlined in DOD Instruction 5120.4 and Air Force Instruction 35-101. All photographs are Air Force photographs unless otherwise indicated.

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To request unit subscriptions or address changes, or to submit articles, photographs or artwork, e-mail information to torch.magazine@us.af.mil. Or you can write to: Editor, **TORCH**, HQ AETC/SEM, 244 F Street East, Suite 1, Randolph AFB, TX 78150-4328. You also can fax to: (210) 652-6982 or DSN: 487-6982. For customer service, call (210) 652-5818 or DSN 487-5818. Include your name, full unit address, phone number, fax number and e-mail address on all submissions. Unit distribution is based on a ratio of one copy per seven persons assigned. For personal subscriptions, call toll free 1-866-512-1800 or write to New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

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FROM THE
DIRECTOR

By Col. **Tal W. Metzgar**
AETC director of safety

CONTINUING THE LEGACY

As I write my first article as the director of safety for Air Education and Training Command, let me begin with how honored I am to rejoin a team with a legacy of excellence. I have been associated with AETC for the majority of my adult life … as a student, instructor and staff officer. The men and women who comprise "the first command" are truly an elite force of professionals, dedicated to instilling our service's core values in everyone we train.

Long before 9/11, AETC performed its wartime mission training a lethal, technologically advanced force for combatant commanders. Our nation was able to respond and sustain a response, largely due to the product of this command — Airmen! As "the first command" we are not only responsible for operational and technical training, but we instill the principles of risk management and safety consciousness that last a lifetime, well beyond a military career. Simply put, we teach job skills … and life skills. We must take our business seriously, because the consequences of failure — even momentary lapses in judgment, situational awareness or discipline — are catastrophic.

Our Air Force is the most advanced, highly-trained, air force on the planet. The high cost to sustain this advantage demands our individual and collective effort to preserve and protect limited resources. In a recent discussion with the commander of Air Education and Training Command, Gen. Edward A. Rice Jr., he remarked on the exponentially more expensive costs associated with today's mishaps. He added, "We can, and must, train to a new level."

"Simply put, we teach job skills … and life skills. We must take our business seriously, because the consequences of failure — even momentary lapses in judgment, situational awareness or discipline — are catastrophic."

The modern materials and methods to repair or replace equipment and weapon systems drive the total cost of mishaps higher and higher with each new generation. For example, a "total loss" associated with a legacy aircraft may cost taxpayers $3.5 million, but a modern combat aircraft only partially damaged may require $35 million and multiple years to repair. Unlike equipment, the loss of even one Airman, on or off duty, is priceless and irreplaceable.

Looking back at this past fiscal year, AETC suffered six fatalities … all off duty, two occurring during the Critical Days of Summer (both the result of motorcycle mishaps). While we do a pretty good job on duty identifying, mitigating and/or eliminating risks, it's imperative for supervisors to understand what off-duty activities their Airmen are participating in. Simply annotating the AETC Form 410, High Risk Activities worksheet, is not enough. A periodic review and recurring conversation will reduce complacency and may encourage refresher training, much like our on-duty requirements. For members under the age of 26, an AETC Form 29B must be completed before departing on leave, temporary duty or permanent change of station.

We live and operate in a dangerous world. As we begin a new fiscal year, I challenge you as members of "the first command" to take your obligation to protect our personnel and resources to a higher level. Our command is in the unique position to recruit, train and instill our service's core values and sound risk management principles to keep our Air Force on the cutting edge. I look forward to serving with you as we continue our legacy of excellence.

HONORING JERRY

I read your cover story "Troubled Waters" in the Summer 2012 edition of Torch, and I could feel the deep hurt in Dave and Loida Stack's words. To the Stack family, there are no words that I can share with you to help ease your pain from the loss of your beautiful grandson, Jerry Madrigal.

After reading your story, I just know in my heart that he is smiling down at you. He would never blame you for the tragedy that happened at the lake — not the great, fun-loving boy you describe.

I also know he would not want you to cry for him, but to remember only the good things he did that brought smiles to your faces.

No one can tell you how long it takes to heal; but I think by sharing your story, you have brought awareness to so many others. That is something your grandson would want you to do … a great way to honor Jerry.

God bless you and your family.

Jo Rowe
Keesler Air Force Base, Miss.

REST IN PEACE

Reference the story "Troubled Waters" in the Summer 2012 Torch, absolutely heartbreaking. Thanks, Dave and Loida Stack, for summoning the strength to share the pain of your worst nightmare come true. This story will surely help others avoid tragedy. May your grandson rest in peace!

Master Sgt. Michael Hammond
Via Torch on Facebook

LETTERS TO TORCH

Have a comment or complaint? Letters to Torch may be sent via e-mail to: torch.magazine@us.af.mil. Or mail to Torch Editor, HQ AETC/SEM, 244 F Street East, Suite 1, Randolph AFB TX, 78150-4328, or fax to DSN 487-6982 or commercially to (210) 652-6982. For customer service, call DSN 487-5818, or commercially at (210) 652-5818. Please include your name, address and phone number.

MISSED THE MARK

BY STAFF SGT. GREG C. BIONDO

***Lt. Col. James Routt**, with the 550th Special Operations Squadron, flies the last combat mission of his career in a HC-130P King at Camp Bastion, Afghanistan, April 12. Routt is currently the oldest active-duty pilot in the Air Force and was augmenting for the 71st Expeditionary Rescue Squadron at the time this picture was taken. The mission of the 71st ERQS is to provide personnel recovery from hostile locations.*

Boy was I excited to read about my friend in the Summer 2012 issue of Torch when I read the headline "Everything I Know about Flying: Air Force's Oldest Instructor Pilot Gives His Perspective."

Then I flipped back to page 20 only to think to myself, "Who is this guy?"

The Air Force's actual oldest instructor pilot is Lt. Col. James A. Routt from the 550th Special Operations Squadron at Kirtland Air Force Base, N.M.. He will be 65 in October (Lt. Col. Gordon P. Kimpel, who was featured in the article, is only 59).

Routt began his career in 1970, and his first combat aircraft was the B-52. Since then he has amassed more than 7,000 hours, 2,050 instructor hours, 288 evaluator hours and 1,500 hours of NVG time in the B-52, WC-130, HC-130P and MC-130P. He retired in 1996 but came back as part of the rated officer recall program. Routt earned the United Kingdom's Guild of Air Pilots and Navigators Air Master Certificate, an honor he shares with only two other Americans — Capt. "Sully" Sullenberger and Neil Armstrong.

He is currently on terminal leave, but that means he is not technically retired yet. Additionally, since the article printed in the summer issue, that means you were working on the article in the spring — the same time Routt was serving a combat tour in Afghanistan with the 71st Expeditionary Rescue Squadron.

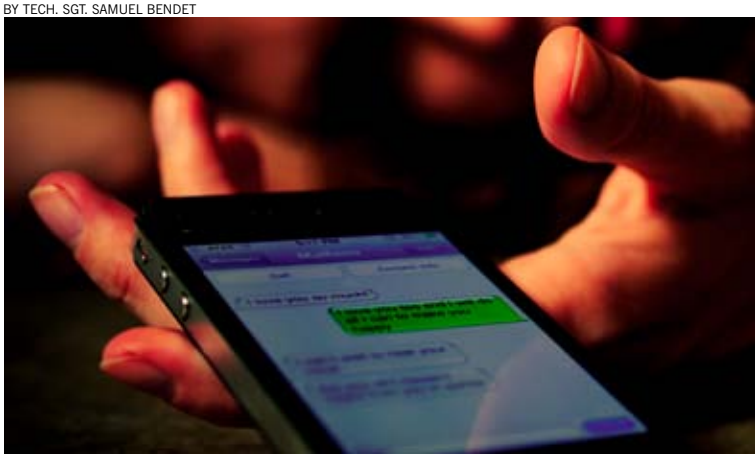
You guys do good work, but you missed the mark this time.

John Willgohs
Kirtland Air Force Base, N.M.

You are correct. The Air Force Personnel Center verified that Colonel Routt was indeed the oldest instructor pilot at the time the summer issue was printed. Thank you for setting the record straight.

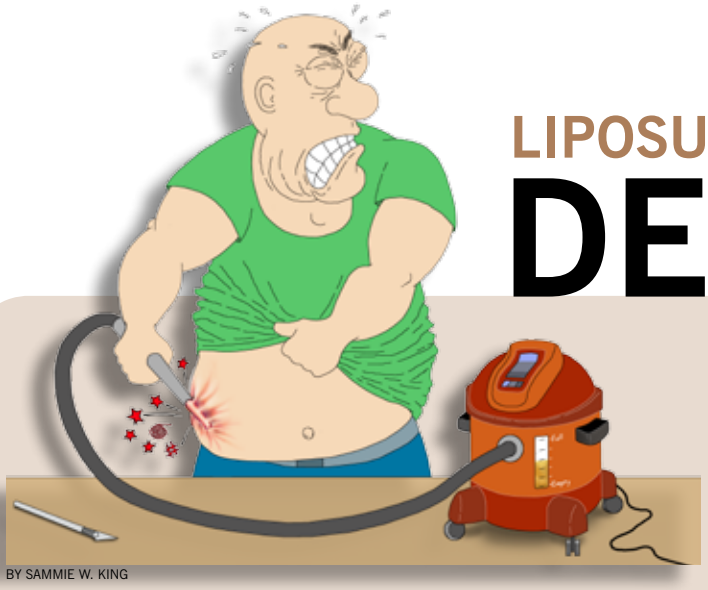
A REAL EYE OPENER

BY TECH. SGT. SAMUEL BENDET



Thank you for the eye-opening article "A Text to Die For …" (Summer 2012 Torch, page 12). I'm embarrassed to say, I have texted my guy similar "love notes" while driving. The story sent chills up my spine … could've been me!

Margaret Pena
Via e-mail



BY SAMMIE W. KING

LIPOSUCTION CAN BE DEADLY

I read with interest your article on "Liposuction" in the Summer 2012 issue of Torch ("The Alert Consumer," page 7). Your message is right on. Several years ago, the wife of an Army lieutenant colonel, who was attending Air War College at the time, had liposuction performed and died from an infection just days after the procedure.

Retired Col. Joe Panza
Maxwell Air Force Base, Ala.

FAT CHANCE

Liposuction to pass the Air Force fitness test (Torch, page 7)? Pardon the pun, but fat chance! It would never work long term because you're not changing your lifestyle, just taking a dangerous shortcut. So you would not only put your life and career in jeopardy, but spend thousands of dollars on something that would probably only be a temporary fix at best. Hope Airmen thinking about this option read your article before making a big mistake.

Robert Centers
Via e-mail

BY ANDY DUNAWAY

WOUNDED WARRIOR?

The article "Comeback Kid" (Summer 2012 Torch, page 4) refers to 1st Lt. Ryan McGuire as a "wounded warrior." Yet, he was injured in a boating accident, not in contact with an armed enemy.

In accordance with Air Force Instruction 34-1101, 3.3.2., "The definition of a wounded warrior is any Airman who has a combat or hostile-related injury or illness that may require long-term care or a medical or physical evaluation board to determine fitness for duty. This includes a combat or hostile-related injury or illness resulting from hazardous service or performance of duty under conditions simulating war or through an instrumentality of war."

Please believe me that I'm not attempting to say anything bad about the article or the lieutenant. But I have a service member/amputee who sustained injures from a landmine in Afghanistan, and the question was raised. Your article generated a lot of conversation within the community. This is a good thing.

Chief Master Sgt. Al Schneider
Eglin Air Force Base, Fla.

TUMBLEWEED TAKEDOWN

AIRMEN SURVIVE MOTORCYCLE CRASH THANKS TO PROTECTIVE GEAR, WINGMEN

ALTUS AIR FORCE BASE, Okla. — "When I woke up in the ambulance, the paramedic took my helmet, shoved it in my face and said, 'If you hadn't been wearing this, we would be scraping your brains up off the pavement.' "

As the reality of those words sunk in, Maj. Adam Travis, 97th Air Mobility Wing flight safety officer at Altus AFB, realized that fateful ride on Jan. 15 easily could have been his last. As a matter of fact, across the Air Force this fiscal year, there have been 228 motorcycle mishaps, 17 of which were fatalities or led to total disability. Had Travis and another Altus Airmen not worn the proper personal protective equipment, they likely would be numbers 18 and 19 on the victim list.

Travis and Master Sgt. Lee Adkins, Headquarters Air Mobility Command KC-135 Air Training Squadron Quality Assurance manager, were riding their motorcycles in a group of five riders nearly three miles south of the city of Altus. That's when Adkins, who was driving at 70 mph, collided with a tumbleweed and was thrown from his bike, which, in turn, caused Travis to crash.

"I saw a huge tumbleweed out of the corner of my eye in the median," Adkins said. "I thought we were going to pass it because we were going 70 miles an hour. … That is the last thing I remember."

As soon as the group's lead rider passed the tumbleweed, it rolled out into the road in front of Adkins

"It looked like it hit his front wheel and exploded," said Staff Sgt. Michael Fagan, 54th Air Refueling Squadron formal training unit instructor and the last rider in the group. "(Adkins) goes down and then by reaction Travis locked up his brakes and went down."

Adkins and Travis had been riding in the second and third positions of the group.

"The last thing I remember seeing was this giant tumbleweed that was the size of a kitchen table come rolling out on the road as Leroy was driving through it," Travis said. "I woke up in the ambulance for about 30 seconds and then I woke up in the hospital a couple hours later. That is about all I really remember of it.

"We were doing the speed limit. We were all far enough apart from each other. … We just had an unfortunate situation pop up."

Both riders suffered injuries.

"I was wearing jeans, riding boots, leather jacket, gloves, smash resistant glasses and a helmet," Adkins said. "I was wearing a helmet and still fractured my skull. I had a brain bleed, shattered my forearm — had to have surgery on that, two plates, 12 screws — four broken ribs, punctured lungs, lacerated liver, torn medial collateral ligament, huge abrasion on the right side, which has had three surgeries, and a lot of ligament damage."

Adkins found out after the accident that emergency responders thought they might find him dead on arrival.

"If it wasn't for the (personal protective) gear, I wouldn't be talking to you right now," Adkins said.

Travis was wearing a full-face helmet made of carbon fiber. At some point during the accident he flipped over and started sliding on his face. The helmet still has pieces of tumbleweed embedded into it.

"My jacket, gloves, pants, boots and helmet — all of it got destroyed, Travis said. "And the only thing I have to show for it is a tiny little scar on my thumb and backside from road rash," Travis said. "(My gear) absolutely kept me from dying."

Personal protective equipment wasn't the only factor that saved Travis and Adkins. Staff Sgt. Lamar Daniel, 97th Training Squadron KC-135 Formal Training Unit evaluator boom operator; Christopher Massey, Northrop Grumman site support for the Graduated Training Integrated Management System, and Fagan, were the other members of the riding group, and they immediately controlled the scene after the crash.

Once Adkins and Travis stopped rolling down the road, the other three riders ensured they did not move and blocked the road off.

"Either of us could have had a spinal injury; so if they had allowed us to get up or let someone else move us, it could have been bad," Travis said.

"I know that I am here today because of those guys," Adkins said. "PPE and the wingman concept really did come into play."

— Senior Airman Kenneth W. Norman
97th Air Mobility Wing Public Affairs

With his right arm and his helmet still showing the scars of his crash, *Master Sgt. Lee Adkins, of Altus AFB, Okla., credits his protective gear, wingmen and emergency services for saving his life after crashing his motorcycle earlier this year. He had to have surgery on his forearm, which needed two plates and 12 screws to fix. He also suffered brain bleed, four broken ribs, punctured lungs and a lacerated liver, to name a few of his worst injuries.*

BY TECH. SGT. MATTHEW HANNEN

MOTORCYCLE MISHAPS TOP SUMMER DEATH TOLL

When the Critical Days of Summer wrapped up Sept. 3, the Air Force had suffered 16 fatalities, more than half from motorcycle mishaps.

The Critical Days of Summer is a high-risk time period from Memorial Day weekend in May to Labor Day weekend in September that historically sees mishaps rise. Of the Air Force's 16 fatalities, Air Education and Training Command suffered two, both from motorcycles.

In a July 24 memorandum to commanders, AETC Commander Gen. Edward A. Rice Jr. stressed the need to curb this alarming trend.

"On the heels of AETC's 934-day motorcycle fatality-free period, we have now experienced three motorcycle fatalities since April 23," the general said. "Our command went nearly three years without a motorcycle fatality. … I have high expectations for us to accomplish this plus more in the future."

A breakdown of the Air Force's 16 summer fatalities include:

✦ *Nine motorcycle mishaps* — six lost control in single-vehicle crashes, and the other three collided with another vehicle.

✦ *Two automobile mishaps* — one lost control and rolled, while the other lost control and struck a guardrail.

✦ *Two sports and recreation* — both drownings; one after jumping out of a boat, and the other while kayaking.

✦ *Two miscellaneous* — both in the home; one from electrocution while doing a repair under the house, and the other from a fire.

✦ *One bicycle* — struck by a car while riding at night.

INJURED DOCTOR SAVES COP HIT BY HELICOPTOR ROTOR BLADE

NELLIS AIR FORCE BASE, Nev. (AFNS) — An Air Force doctor who had broken his leg while hiking had to rescue his rescuer after a police officer who responded to his mishap was struck in the head by a helicopter rotor blade.

Maj. (Dr.) Jeremy Kilburn, a 34-year-old critical care pulmonologist assigned to the 99th Medical Operations Squadron at Nellis AFB, had been on vacation with his dog, Virgil, and childhood friend, Dan Grasso, July 5 when the accident occurred near Big Bear Lake in the Shasta Trinity Forest, Calif.

The events of that day began when Kilburn, who attended a fellowship program for critical care and pulmonary medicine at Washington University in Saint Louis while assigned to Air Education and Training Command from 2008-2011, was returning from a hike.

As he neared his tent, he stopped to take in the view, and his dog bumped into him. The collision caused the doctor to lose his footing. As he stepped forward to catch himself, he turned his ankle.

"I looked down and was staring at the bottom of my foot," he said.

Kilburn knew he'd dislocated his ankle and broken his leg, so he sat down, took off his boot and put his foot back into place.

Grasso helped Kilburn to his tent to get him out of the sun, while other campers alerted authorities.

Kilburn couldn't see the rescue helicopter landing, but knew it was on its way when other campers who had gathered at the scene began to cheer.

"They were clapping," the major said because the pilot had done a "brilliant job of landing" in very difficult terrain.

But the mood quickly changed when the doctor heard some of the other campers shriek, *"Oh my God!"* Kilburn didn't understand why until Grasso came running up the hill saying he thought a cop had just been killed.

California Highway Patrol Officer Tony Stanley had been struck in the head by the main rotor blade of the helicopter.

"Get me down there!" Kilburn said.

With Grasso's help, the doctor managed to hobble his way to Stanley's side. Other campers were already applying direct pressure to the officer's head wound. Kilburn assessed the situation and stabilized the patient's airway to assist him with breathing.

Kilburn put a cervical collar on Stanley and told the other campers how to place him on a backboard.

While another camper continued to apply pressure to the wound, Kilburn climbed into the helicopter and monitored Stanley's heart rate and breathing during the flight to Mercy Hospital in Redding, Calif.

When they arrived at the hospital, the medical staff took Stanley to one trauma bay and put the doctor in the one next to him.

Kilburn needed surgery to repair his leg. At press time, Stanley remained hospitalized at Mercy Medical Center.

"Dr. Kilburn fought through his own pain to save the life of our officer, highlighting the dedication of our military that put their lives on the line every day for our country," said CHP Commissioner Joe Farrow. "Dr. Kilburn's actions were clearly above and beyond the call of duty."

— Master Sgt. Kelley J. Stewart
99th Air Base Wing Public Affairs

BY MASTER SGT. JASON W. EDWARDS

Doctor-turned-patient-turned rescuer
Maj. (Dr.) Jeremy Kilburn, 99th Medical Operations Squadron Flight commander and Intensive Care Unit director, in the Mike O'Callaghan Federal Medical Center's intensive care unit July 10 at Nellis AFB, Nev. After breaking his leg, Kilburn took action when a patrolman from the California Highway Patrol rescue helicopter was struck in the head by a helicopter rotor blade.

TALES OF THE STRANGE

TRAPPED LIKE A RAT

PHOTO ILLUSTRATION BY TECH. SGT. SAMUEL BENDET

A rat trap broke a retired senior master sergeant's right pinky finger *when he inadvertently sprung the device with his hand.*

A retired Air Force senior master sergeant had his plans to trap a rat foiled when the trap he had set sprung … on him!

The sergeant had been hearing noises in his attic. When he inspected, he found rat droppings, along with some chewed pipe insulation, apparently being used to make a comfortable nest for some future off-spring. The sergeant went to the store, bought a spring-loaded trap and returned home to set his plan into action.

With a little peanut butter to attract the beast, he left the trap and waited. The next morning when he went to check, sure enough, his antagonist had taken the bait, sprung the trap and suffered the lethal blow. After disposing of the rat, the sergeant reset his trap to ensure no other vermin were present. But the noises stopped, and no other nuisance visitors appeared.

He decided to leave the trap set to ward off future unwanted guests. Months passed, and with no need to go back into his attic, the sergeant forgot about the trap. One day his shivering wife nearly fell out of the shower when she discovered only cold water spouting from the showerhead. She told her husband he needed to check the pilot light on the hot water heater, which was located in the attic.

So the sergeant pulled down the door and unfolded the ladder to the ceiling entrance of the attic. As he reached his right hand over the ledge and onto the floor of the dark attic to help steady himself the rest of the way up, the loud snap and painful clamp of the trap on his pinky finger nearly sent him toppling down the stairs.

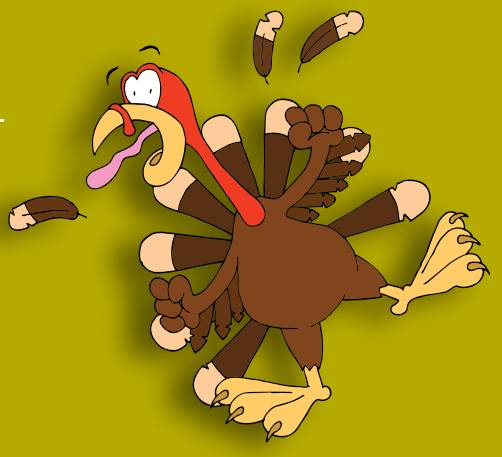
Startled and in pain, he let out a less-than-manly scream and shook and pulled his finger from the trap. A trip to the emergency room revealed the man had broken his finger — either from the initial assault on his hand or the wild swinging of his arm afterward.

In the end, the sergeant learned a painful lesson about complacency and "strategic" placement of rat traps. And somewhere, if he listened carefully, he could swear he heard a rodent snickering. …

— Tim Barela

'TURKEY' SHOOT

On a turkey hunt, a man watched another hunter stalk some prey across an open field toward where he was waiting in ambush. To alert the approaching hunter, the man stood up, removed his mask and gloves, and moved from behind the tree where he was sitting. At this time the approaching hunter fired, shooting the man in the body. The victim fired two shots in the air and yelled, but the shooter ran away. Fortunately, the victim survived. With a new hunting season fast approaching, it's important to remember to identify your target before pulling the trigger and avoid ruffling any unintended feathers.



THE EYES HAVE IT

REFRACTIVE SURGERY GIVES SERVICE MEMBERS COMBAT EDGE THROUGH VISION

Three Air Force and eight Army surgeons at the Wilford Hall Medical Joint Refractive Surgery Center at Lackland Air Force Base, Texas, are helping service members sharpen their combat edge by sharpening their vision.

Active-duty military members from all branches of the service travel to the first joint refractive surgery center to get corrective surgeries. The center is also home to the only Air Force residency program for ophthalmologists and a Department of Defense Center of Excellence.

"We're the busiest refractive surgery center in the Air Force, performing upward of 4,000 surgeries in a year here, which is an enormous amount of surgery," said Lt. Col. (Dr.) Charles Reilly, the consultant to the surgeon general for refractive surgery. "Our other big mission that we have here is research. We're actually trying to push the boundaries of what is known and not known about laser vision correction and what the potential is for the future in Air Force refractive surgery."

Patients will choose either LASIK or PRK based on their eyes and the benefits each procedure has to offer.

"The determining factors are the structure of the cornea," said Maj. (Dr.) Vashuda Panday, the chief of cornea refractive surgery. "There are certain guidelines we follow based on our research in the ophthalmologic community. It's really the structure and the shape of the cornea that determines what the eye is better suited for. There's nothing that says you must get one or the other. Really, it's your eyes that determine what you can get, and of course, if you have a preference and that matches up with your eyes. In other words, if your eyes qualify for one or the other, that determines which procedure you're going to get."

Another big deciding factor for patients is the recovery time from the surgery.

"(With) LASIK we're actually cutting a flap into the cornea," Panday said. "It's a piece of tissue that's lifted and actually placed back. With PRK, we're actually just removing the surface skin cells and then letting the laser do its job. There's a slightly different healing process between the two, but that's the main difference.

"LASIK has a faster visual recovery, usually a day or so," the doctor added. "It's a lot less uncomfortable overall. When you remove skin cells like we do with PRK, there is a healing process and also involved is some measure of discomfort. With LASIK, since we don't touch the skin cells too much, there is a faster recovery in terms of vision and (patients) have a lot more comfort and less pain over all."

The refractive surgery program is designed as a readiness force enhancer to help service members perform better in combat than they could with contact lenses or glasses.

"If you can see the enemy 100 miles sooner than the enemy can see you, you have the advantage," Reilly said. "We're about giving you the advantage in combat. We want to give you what we call the "combat edge" in vision. Just like when you upgrade avionics systems in an F-15 or an F-22, you want your radar to be able to see the enemy long before their radar can see you. That's how we look at vision. We're upgrading the 'avionics' of the human weapons system."

BY STAFF SGT. MARESHAH HAYNES

***As a step in LASIK refractive surgery**, Maj. (Dr.) Vashuda Panday lifts the corneal flap of Army Staff Sgt. Stanley Arnold last year at Lackland AFB, Texas. Panday is the chief of cornea refractive surgery at the Joint Refractive Surgery Center, and Arnold is an instructor and infantryman at Ft. Huachuca, Ariz.*

One recently "upgraded weapons system" is Army Staff Sgt. Stanley Arnold, a combat tactics instructor at Ft. Huachuca, Ariz. The infantryman, who wore glasses for the past 18 years, spent more than five months going through the process to get LASIK surgery but said it was worth the wait.

"If you can see the enemy 100 miles sooner than the enemy can see you, you have the advantage. … We're upgrading the 'avionics' of the human weapons system."

"I think one of the biggest motivations behind getting the LASIK done was because of my job," Arnold said. "When I'm not instructing, and I'm in a line unit, I'm an infantryman. Whenever you go out on a patrol, it's critical that you're always ready at a moment's notice. But … contact lenses are not allowed, so you always have to have those different sets of glasses. You have to have your clear lenses, your dark lenses, maintain the inserts for your goggles, your protective masks. So depending on what the mission is, I always have to make sure those things are ready to go."

Even with glasses, Arnold said his vision wasn't the best it could be to accomplish his mission.

"One of the things I don't like about glasses is that it takes away from my peripheral vision," he said. "Now, I know I'll get my peripheral back and that makes me feel better with deploying. Being an infantryman, I know for a fact I will deploy eventually. I'm very happy with it. I'm on cloud nine."

— Staff Sgt. Mareshah Haynes
Defense Media Activity

Two-time Paralympic silver medalist
Kari Miller stands 3 inches taller in her titanium and carbon fiber legs. Even though Miller no longer serves in the military, she continues to represent her country as a player on the U.S. Paralympics sitting volleyball team and as a coach and mentor to wounded warriors.

STANDING TALL

PARALYMPICS

After a drunk driver took her legs, this Army veteran turned her ordeal into Olympic glory

By **Tim Barela**
Photos by Tech. Sgt. **Samuel Bendet**

Kari Miller lost both her legs Dec. 19, 1999, when a drunk driver, speeding at 80 mph, smashed into the car in which she was a passenger. A 22-year-old Army sergeant at the time, a lot of things changed for her after that day. For instance? "I'm taller now," she said. Taller? "Yes, taller," she repeated defiantly. "I was 5'4 then; I'm 5'7 now," she said, breaking into a grin and pointing at her prosthetic legs. But these days Miller stands tallest when she sits down. She is a two-time Paralympic silver medalist in women's sitting volleyball, garnering her first in Beijing in 2008 and winning her second at the London Games Sept. 7. She is a giant in the sport, being named the world's best female libero — or defensive specialist — in the 2012 Paralympics.

Torch: You are a Paralympic sensation, becoming the planet's best at what you do; while in the Army you served across the globe in Bosnia, Germany and Korea as a transportation management coordinator; and you graduated from college while playing wheelchair basketball for the University of Illinois. What do you consider your best achievement?

Miller: The best thing I do is mentor warriors wounded in combat or other injured or ill veterans through the Paralympic military sports program. A lot of them are young, angry and depressed about their situation. Then they see me, talk to me and discover life's not over. I give them hope. I help them discover how sports cannot only help them physically, but mentally as well. Because after you've been severely injured, every little thing you do is a win. Whether it was a drunk driver or an enemy grenade, they took our legs, not our lives.

Torch: What is your first memory of the drunk driver crashing into you?

Miller: He hit us hard from behind … so violently hard. I hear this horrible screeching sound of metal on metal. Our car starts spinning and spinning, and I remember thinking, "Oh, God, is it ever going to stop?" And then everything went black.

Torch: The car you were in left the road and slammed into a telephone pole, and you were knocked unconscious. What do you recall when you came to?

Miller: I look around and see Petey (Peter Dziwornooh, 25) — the driver. I'm in the front seat next to him, and I'm like "Wake up! Wake up!" But he's out cold. (He did not survive the crash). Then I start looking at myself to see if I'm all in one piece. I'm thinking I'm OK. But I'm trapped, so I start screaming for help.

Torch: Were you feeling any pain?

Miller: No. Not really any pain, because I'm in shock. But the wreckage is squishing down on me — like someone is sitting on my ribcage. I can hardly breathe … I feel like I'm suffocating. I'm freaking out

and start telling myself to relax and just go to sleep. But when I start to go unconscious, I see flashes of my mom and my grandma, and random memories pop up. My life is passing before my eyes. That scares me, so I fight it.

Torch: You asked to have your legs cut off. Why?

Miller: I'm still in the car. By this time they had cut the roof off, and a fireman is lying on top of the vehicle. I look straight up into his eyes. I'm like, "Hey, can you get me out of here?" He says, "Well, we're trying … you're wrapped around a telephone pole." I tell him to just cut it down, but he says they can't. Then I joke, "You mean that telephone pole is worth more than me?" He laughs a little bit. Then this calmness just comes over me. It's weird because I'm trapped, I'm crushed, and it's getting harder and harder to breathe, but I have this moment of clarity. I look at him seriously, and I tell him, "Hey, if you have to cut my legs off to get me out of here, do it. I'll forgive you." He smiles at me and gives me a hug. Then he sticks a needle in me, and I drift off to sleep.

Torch: How badly were you injured?

Miller: Severely. Lots of crush injuries. Collapsed lung, hole in my intestine, multiple fractures. I had breaks in the ulna and radial of my left arm. A broken finger. My pelvis was crushed. Both femurs in my legs were broken. And, of course, I had my legs amputated — my right one below the knee and my left one above.

Torch: Describe seeing your mom for the first time after the accident.

Miller: I wake up in the intensive care unit laying on a gurney with a tube down my throat, and I'm happy. I'm alive! Whew! Even though it's dark, I can see my mother. She looks so scared … so worried. That frightens me. I'm not used to seeing my mom like that. She's a strong woman — a Washington D.C. homicide detective. I can't speak because of the tube down my throat, so the nurse gives me some paper and a pencil. My mom is so hesitant to speak but finally asks me if I know what has happened. I tell her yes, I had been in a car wreck. Then she asks, "Yeah, but do you know *everything* that happened?" And I write, "Yeah, I lost my legs. … But at least now I can be as tall as I want to be." Then she smiles, and you can just see all her fear melt away. She knew if I still had my sense of humor, I was going to be OK. We could work on everything else.

Torch: How much did your good sense of humor help in the recovery process?

Miller: It was huge. My family is really cool that way. My uncle came to see me, and he knows I love gummy bears. So he tells me if I hurry up and get better, he will get me some. Then he says, "Heck, I'll give you one right now. Want me to stick one down your tube." Down my breathing tube! I'm like, "Get this man out of here; he's trying to kill me!" But it's good to be able to laugh. It helps you mentally. You don't feel so sorry for yourself.

Torch: What was the toughest part of recovery?

Miller: Learning to walk again. With one above-the-knee amputation and one below, I had to learn to walk two different ways with one body. The right leg did one thing, the left another — very frustrating.

Torch: In addition to your sense of humor and family what else did you draw from during your recovery?

Miller: Sports. Sports have like a magical healing power. I've been around sports all my life, and played basketball and ran track competitively when I was in high school.

Torch: So how is it, then, that you ended up playing volleyball?

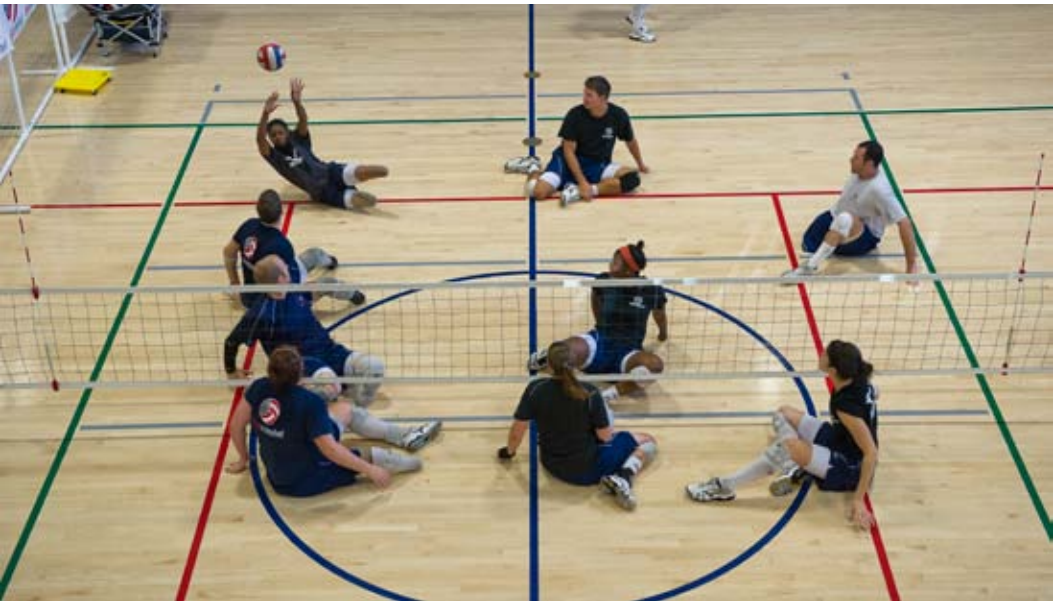
Miller: The funny thing is I hated volleyball. I couldn't stand those little spandex booty shorts they wear with everything hanging out. So the first thing I tried was wheelchair basketball — my mom, who coached me when I was younger, helped introduce me to that. I ended up playing wheelchair basketball at the University of Illinois. I got good enough at that to try out for the U.S. Paralympic wheelchair basketball team in 2004. But I didn't make the team. That's when a teammate suggested I try sitting volleyball. I was upset, but decided I'd go for it.

Torch: When did you fall in love with volleyball?

Miller: I was at a sitting volleyball camp, and the coach was explaining some things to me. He told me if the ball goes above your head, use your hands. If it comes down low, use your forearms. Seemed simple enough. So then there's this big chick — one of her hands was like two of mine — and it's her turn to serve the ball. She bounces it, tosses it in

Happy New Year? *As the millennium ball dropped Jan. 1, 2000, Miller recovered from a collapsed lung, multiple broken bones, a crushed pelvis, a hole in her intestine, and a double leg amputation after a drunk driver crashed into her.*

"I'm trapped, I'm crushed, and it's getting harder and harder to breathe. … I tell (the fire rescue man), 'Hey, if you have to cut my legs off to get me out of here, do it. I'll forgive you.'"



Practice isn't over *at the University of Central Oklahoma in Edmond, where Miller and her Paralympic teammates practice. Miller and her teammates hit the gym more than fives days a week in preparation for the 2012 Paralympic games in London.*

Playing a scrimmage against the male Paralympic team*, Miller (top left) was named the best receiver and libero (defensive specialist) during the 2012 Paralympics in the women's sitting volleyball event at the London Games.*

the air, reaches back and swings directly at me. The ball has fire coming out the back of it, and it's headed right for my face. First I'm thinking, "Use your forearms! … no use your hands!" Then, I'm like, "Abort! Abort!" And I jump out of the way and scream. My coach says, "Kari, there's no screaming in volleyball." But I barely hear him because my adrenalin is pumping and I'm excited. For some reason, that element of danger got my competitive juices flowing. I thought, "This is awesome!" The rest is history.

Torch: At age 35 and two silver medals on the biggest sports stage, was this your last Paralympics?

Miller: We'll see. I still love to compete, but I might move into coaching. And I want to get my doctorate's degree in physical therapy.

Torch: What makes you think you'll enjoy coaching?

Miller: Well, I've been around sports all my life and can't imagine my life without them. Serving as a mentor to wounded warriors and coaching them has been probably the

Teaching the fundamentals of sitting volleyball *at the Rambler Fitness Center, Randolph Air Force Base, Texas, Jan. 18, Miller embraces the opportunity to meet, coach and mentor wounded, injured and ill warriors participating in a Paralympic military sports camp. Even though she was in the Army, Miller has a soft spot for the Air Force as her younger brother, Michael Miller, served as an F-16 crew chief at Cannon AFB, N.M.*

most meaningful thing I have done. As a matter of fact, the Army just selected me to be the coach for their next Warrior Games team. I'm really excited about it.

Torch: You've come a long way. But are you still angry at the drunk driver who cost you your legs and took your friend, Petey's, life?

Miller: No, I'm not angry at him. He was a young guy who made a bad mistake and is paying the price (prison time). He wasn't some repeat offender; he wasn't malicious. Truthfully, back in the day … I've been guilty of drinking and driving. I was just lucky that I never did anything that caused someone else harm. I still have a great life. I have my family. I have my friends. … I have volleyball.

Torch: And to others who would drink and drive?

Miller: Don't do it. It's not worth it. Turns out the drunk driver who hit us knew Petey. They were friends. I would rather be on my side of this than his. I couldn't live with the guilt.

Drunk Driving *Doesn't Add Up*

- Every day in America on average, another 28 people die as a result of drunk driving crashes.
- Almost every 90 seconds, a person is injured in a drunk driving crash.
- On average, one in three people will be involved in a drunk driving crash in their lifetime.
- Drunk driving costs the United States $132 billion a year.
- If all 17 million people who admitted to driving drunk in 2010 had their own state, it would be the fifth largest in the United States.
- The average person metabolizes alcohol at the rate of about one drink per hour. Only time will sober a person up. Drinking strong coffee, exercising or taking a cold shower will not help.
- A standard drink is defined as 12 ounces of beer, 5 ounces of wine or 1.5 ounces of 72-proof distilled spirits, all of which contain the same amount of alcohol — about .54 ounces.

— National Highway Traffic Safety Administration

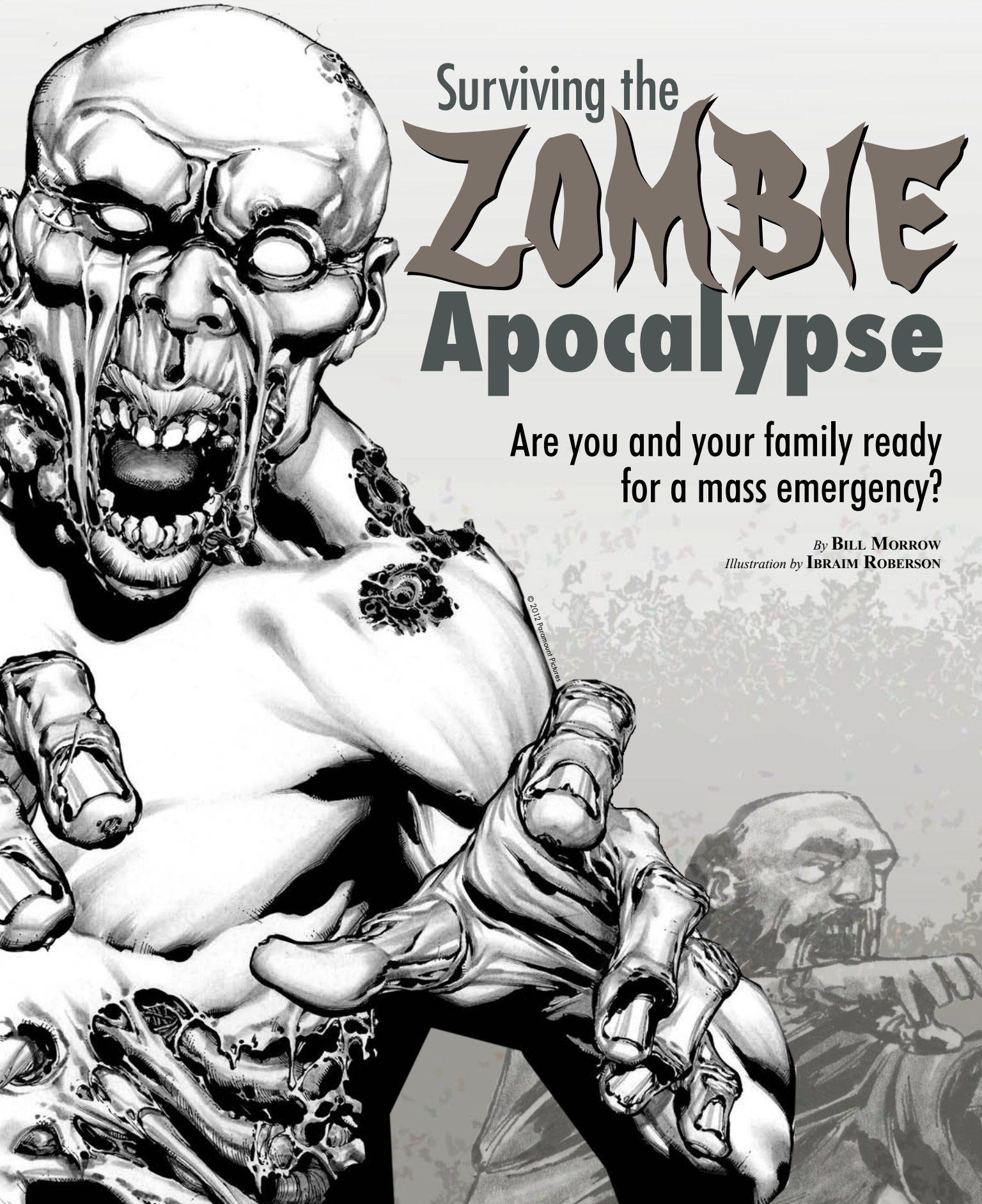
“No, I’m not angry at (the drunk driver). He was a young guy who made a bad mistake and is paying the price. … I still have a great life. I have my family. I have my friends. … I have volleyball.”

Miller doesn’t feel sorry for herself *and doesn’t make excuses. “I will never use my disability as an excuse for failure, and I won’t spend my life hating the guy who did this to me. That would cripple me more than any physical disabilities ever could.”*

Surviving the ZOMBIE Apocalypse

Are you and your family ready for a mass emergency?

By **Bill Morrow**
Illustration by **Ibraim Roberson**



There's a lot you can pick up from reading contemporary fiction. Take zombies as an example. Zombies have been a part of pulp and movie fiction for longer than most of us have been alive, and they keep coming back, no pun intended. A quick "Google" will yield endless pages of information dedicated to the stuff.

In virtually any scenario from Dawn of the Living Dead to World War Z, what we find is that there is a general lapse by the population to be prepared. As slow as they are, the zombies will eventually catch up, and the victim is the next buffet.

This is where safety preparedness comes into play, whether we're talking zombie apocalypse, a camping trip or wilderness exploration, a tornado, hurricane, snowstorm, terrorist attack or general oopsie around the house. Our level of preparedness in the general population can be pretty lame. For the uninitiated, it's primarily because we have this "it's not going to happen to me" kind of attitude. Did you see the movie 127 hours? Well the hero made several mistakes in taking to the wilderness, and I bet he wasn't planning on having to amputate his own arm!

Back to preparedness, in Air Education and Training Command and around the Air Force, next to the commander the most valuable stick in the safety bag is the ability to educate and inform. Season after season, safety will push various campaigns. Your geography and season will dictate what you need to do: Are you in the Sunbelt or above the snowline? Is it hurricane season, or does the surrounding area burn to the ground every year? Have supplies ready — extra food, water, clothing, tools, first aid kits, etc. These are the kind of preparations you can establish over time, not as last-minute panic purchases. The supply chain for the first three of these can easily be disrupted, so garnering supplies is a must.

When we talk fire safety and evacuation, there's always a designated meeting point; this location can be used for multiple emergencies. Sit down with your family, and come up with an emergency plan. This includes where you would go and who you would call. You also can implement this plan if there is a flood, earthquake or other emergency. Everyone knowing where to go is more important than contacting them. Any natural disaster may disrupt telephone communication, or the lines may be so jammed by everyone else trying to find family that you couldn't get through. Consider picking two meeting places, one close to your home and one farther away.

"What we find is that there is a general lapse by the population to be prepared. As slow as they are, the zombies will eventually catch up, and the victim is the next buffet."

We could go off the deep end with this zombie theme — what other supplies to take, the merits of an aluminum bat over a wooden Willey Mays slugger. But the reality of it is, if you're prepared for an emergency, zombie or natural disaster, you're already in a better place to survive the emergency … and keep your brains intact.

Mr. Morrow is the chief of the safety career field management team at Headquarters Air Force Personnel Center at Randolph Air Force Base, Texas.

Preparing for the 'Invasion'

✦ Identify the types of emergencies that are possible in your area. Besides a zombie apocalypse, this may include floods, fires, blizzards, tornadoes, hurricanes, terrorist attacks or earthquakes. If you are unsure contact your local Red Cross chapter or other emergency services for more information.

✦ Pick a meeting place for your family to regroup in case you're separated at the time of the disaster, i.e., zombies invade your home or your town evacuates because of a hurricane. Pick one place right outside your home for sudden emergencies and one place outside of your neighborhood in case you are unable to return home right away.

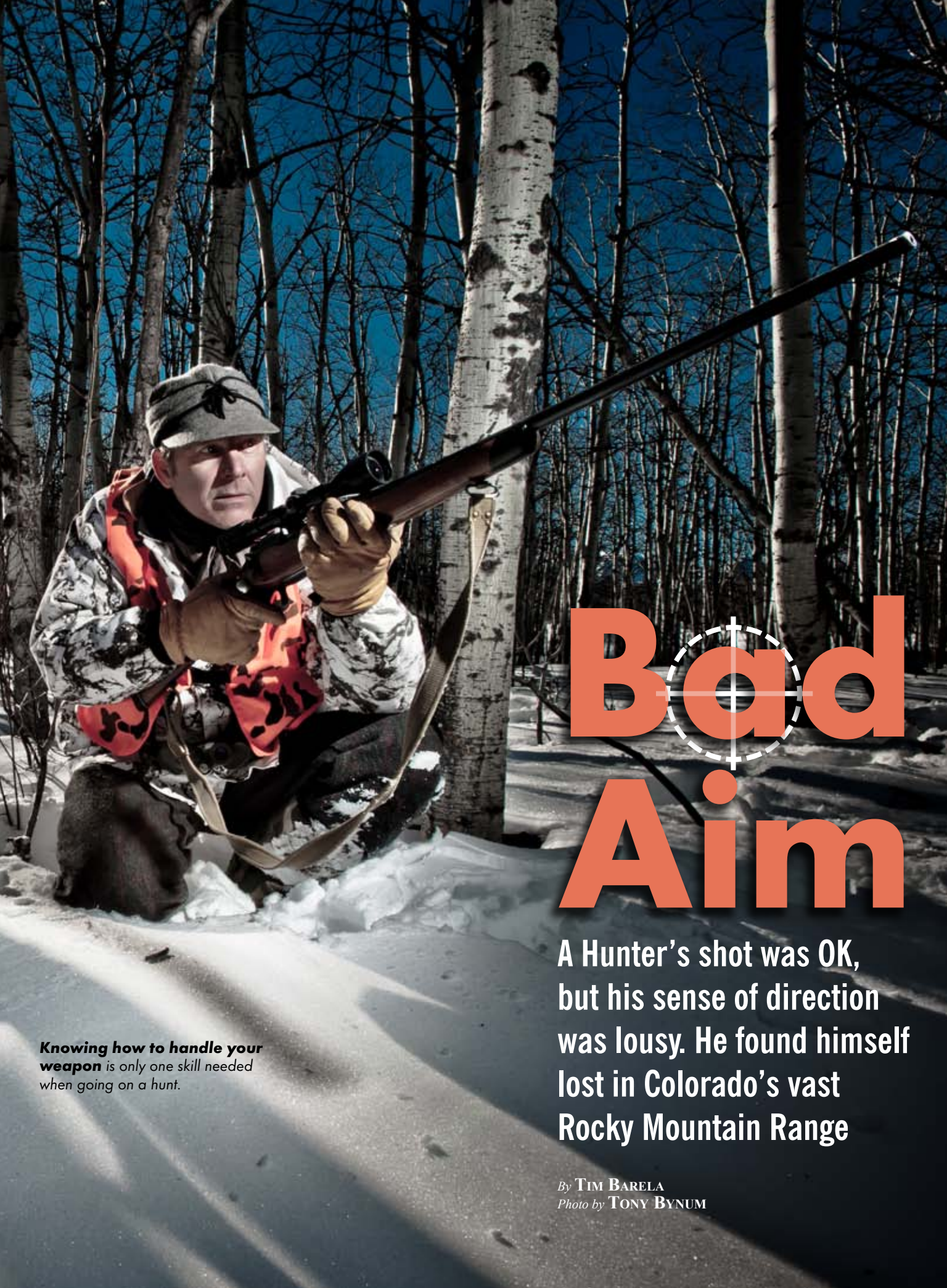
✦ Identify your emergency contacts. Make a list of local contacts like the police, fire department and your local zombie response team. Put these in your cell phone contact list. Also identify an out-of-state contact that you can call during an emergency to let the rest of your family know you are OK.

✦ Plan your evacuation route. When zombies are hungry they won't stop until they get food (i.e., brains). If you've time to evacuate, go; don't hang around, which means you need to get out of town fast! During the hurricane season a few years back as Houston was evacuating some of the city, the interstate became a parking lot as cars ran out of gas.

✦ Plan where you would go and multiple routes you would take ahead of time so that the flesh eaters don't have a chance! This also is helpful when natural disasters strike and you have to take shelter fast.

✦ The earlier you start the better the chance of beating the zombie rush hour and avoiding the traffic that's sure to jam up the roads as time runs out.

– Bill Morrow



Bad Aim

A Hunter's shot was OK, but his sense of direction was lousy. He found himself lost in Colorado's vast Rocky Mountain Range

By **Tim Barela**
Photo by **Tony Bynum**

Knowing how to handle your weapon *is only one skill needed when going on a hunt.*

City folk. As a teen, my friends and I used to shake our heads and make fun of this non-cowboy-boot-wearing clan. Growing up in the country on a small farm in Colorado, it's hard not to laugh when you watch someone get excited because they've seen a cow chip for the first time. After cleaning chicken coops and corrals since we were old enough to hold a shovel, manure just didn't hold the same allure for us country bumpkins.

So the irony isn't lost on me that today I'm one of those people I used to heckle. The only cattle I usually see is the kind already processed and packaged as a quarter-pounder with cheese. I long since traded in cowboy boots and open range for black low-quarters and an office cubicle.

But every now and then, I still long for the open country. As a matter of fact, some years ago when that nostalgic feeling overcame me, I planned a hunting trip in the Colorado Rockies with my brother and brother-in-law. Well, "planned" might be a little strong. I was visiting, and we sort of put together a day trip at the last minute.

I'd always been handy with a rifle. My dad taught me to shoot at a young age. I remember I hit the first target I ever shot at, and then in my excitement, I promptly turned toward my dad, exclaiming, "I got it!" He didn't share my enthusiasm. Suddenly I realized why. I had the .22-caliber rifle pointing straight at his belly.

Thus, commenced my first "crash" course in gun safety.

Let's just say I didn't make that error again.

By the time I went on this particular hunting trip, I was well versed in gun safety. Unfortunately, that was about the extent of what I figured I needed to know. My risk assessment included: know how to handle your gun safely, know what you're shooting at, dress warmly, wear orange. Check, check, check and check. I had all those covered.

But there were more hazards. Had I taken the time to think about them, I might have identified them.

We decided to hunt in a mountainous wilderness near Vail, Colo. I'd never hunted there before, so the area was unfamiliar to me. I really didn't dwell on that fact, because I planned to stick by my older brother, who was familiar with the area.

We started bright and early in the morning. The mountains were beautiful; the snow deep. God's country!

We topped a mountain ridge, formed a skirmish line and decided to slowly work our way to the valley below where elk were most likely to be feeding. My brother formed the center of the line, with my brother-in-law to his right and me to his left. We spread out, but not so far that we couldn't see each other.

As luck would have it, not five minutes into our march, I came upon a six-point bull elk. He was staring right at me, not 60 yards away. I slowly dropped to one knee, released the safety and brought the rifle to my shoulder. But before I could get off a shot, the old bull darted into the trees.

My adrenaline pumped overtime now. I followed the tracks to the edge of the trees. I hadn't planned on entering the trees at that point but noticed that they opened up to another clearing. I followed the tracks in. There was that elk standing, even closer now, at the edge of the other tree line. Again, my rifle came to my shoulder, but again the elk took off before I could fire a shot.

I no longer had my brother in sight, as the trees became too thick to my right. But I felt I'd been traveling pretty much in a straight line, and we'd planned to meet at the bottom of the mountain ridge anyway. Plus, the close calls with the elk made me throw caution to the wind. I was hot on its trail.

Had the elk simply run off and left me in the dust when we'd first spotted each other, I'd have given up on trying to follow it. But it continued its treacherous pattern down the mountain. Always stopping at a tree line to regard me curiously, but moving before I'd get a chance to fire a shot.

I proceeded as if in a trance. I was a horse with a carrot in front of my face.

I finally reached the valley below, at which point the elk, seemingly bored with our little game of cat and mouse, bounded off to torment some other unfortunate hunter.

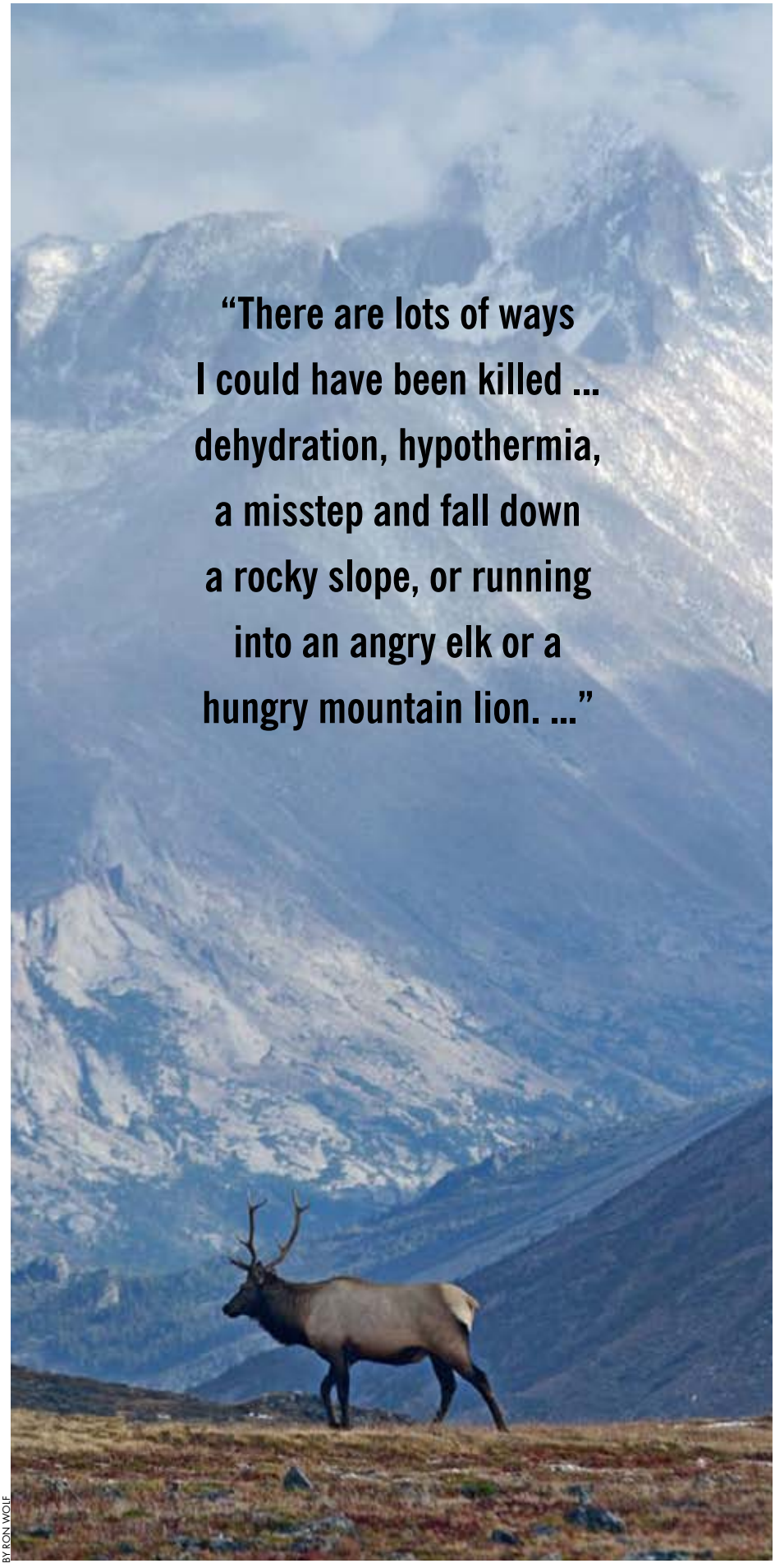
Catching my breath in the thin air, I cursed out loud in frustration.

Then I started looking around to see if I could spot my brother.

No sign of him.

I thought about calling out, but I didn't want to spook any elk he may have in his sights.

In every direction there were thick tree stands and mountain ridges that all looked pretty much the same to a "city slicker" like me. I was unsure what my next move should be.



BY RON WOLF

The snow had been thick and fresh, so I considered following my tracks back out to ensure I didn't get lost. However, I felt as though I'd traveled in a fairly straight line and should be parallel to my brother's position. So if I headed right, I should run into him.

Plus, following my tracks meant going back up the daunting peak. ... Not this desk jockey.

An hour later, though still too embarrassed to admit it, I knew I was lost.

I even resorted to hollering out. ... No response.

Did I mention I had no compass, no cell phone and no sense of direction?

I headed up the mountain ridge, but at an angle I thought would intersect my tracks. I figured once I hit my tracks, I'd just follow them out.

Halfway up, my right knee reminded me that I'd only been out of a knee brace for two weeks. I'd injured it playing racquetball and had barely been able to walk on it just three short weeks ago. Pain shot through the knee, and I knew it had endured too much too soon. I started using it only for balance, putting all the pressure on my left leg to get me up nature's ultimate "StairMaster."

When I finally topped the ridge, my heart sunk. All I could see were other peaks and valleys. Somehow, in all my weaving in and out of trees, I'd gotten totally turned around. I'd climbed the wrong ridge.

Getting lost was one thing, but a mountain ridge is a fairly large landmark. I felt like an idiot. I used to make fun of guys like me.

At that point, I had a lot of problems. No food. No water (sucking down snow won't keep you from becoming dehydrated, plus it dangerously lowers your body temperature). No compass. No cell phone. Only one good knee. And I didn't have a clue which way to go.

I'd ignored the first rule of getting lost, which was to stay put. Now I'd be harder to find. Worst of all, nightfall quickly approached.

There are lots of ways I could have been killed at this point. Dehydration, hypothermia, a misstep and fall down a rocky slope, or running into an angry elk or a hungry mountain lion who figured I was easy pickins.

But in hindsight, if I'd died in those mountains, it would have been from

Elk know their way around the Rocky Mountains. *Humans? Not so much. As one hunter discovered the hard way, you better take a GPS and compass entering a vast wilderness.*

stupid pride and humiliation. Because even though I'd pretty much become a full-fledged city slicker, I still considered myself a country boy at heart. And country boys don't get lost in the woods.

Plus, I was still only 27, still invincible. I didn't think about dying. I only thought about the heckling I'd receive when all my family and friends figured out what a tenderfoot I'd become.

I noticed a ridge that led to a taller peak. I figured a higher vantage point might reveal some sign of civilization. The trek wasn't easy — especially for a one-legged man. When I'd finally reached the top, nightfall had come. I looked in all directions ... nothing.

Then, suddenly, I saw it. Off in the distance, one orange light. A flicker of hope. But between me and the light, stood a smaller ridge — but plenty big enough for a one-legged man.

For an instant, I thought about starting a fire and waiting for the cavalry to arrive. But my ego wouldn't allow it. I started toward the light.

Hours later I made it to the peak of the second ridge. By this time my left knee also had played out from doing the work of two legs. I literally clawed my way to the top the last several yards.

At the top of this peak, I could see a few more lights. Like a mosquito, I headed directly for the distant glow.

Because I was on a beeline and off trail, the snow got so deep in some areas that it reached my chest. It became impossible to keep my rifle out of the drifts. The snow actually forced the bolt action on my rifle to open, ejecting a few shells. Then it jammed completely. Almost simultaneously, I heard a low growling noise just to my right.

Was it my mind playing tricks on me? ... I heard it again.

I unsheathed my knife.

Again, in hindsight, palming my knife probably wasn't the best decision since I had little chance of fending off any wild animal that decided to attack me and was more likely to slip and fall on the blade. But, having it in my hand made me feel better at the time.

"... But in hindsight, if I'd died in those mountains, it would have been from stupid pride and humiliation."

I never saw the animal that growled at me. Whatever it was, it probably was delivering a stern warning, rather than thinking about making me its supper.

Painfully, I inched my way down the mountain.

As I approached the light I'd seen so many hours before off in the distance, I realized it was a house. As I got closer, I noticed the garage door was open. But a big yellow dog lay just inside. He spotted me, jumped up growling and barking, and charged at me.

I still had my knife in my hand and was too cold, tired and hungry to be afraid of anybody's pet. I stood my ground and "barked" a challenge back at him. He must have sensed I was serious because he skidded to a stop, then turned tail and ran.

I decided I wouldn't challenge him by going to his home. Besides I could now see other houses nearby.

At the second house I came to, a young couple answered. I must have been a sight, holding a rifle and a knife and covered in snow. I'm surprised they didn't slam the door in my face, especially since I'd come in the backside of a gated community speckled with multi-million dollar homes.

I melted on their Persian rug as they retrieved a phone for me.

I'd been gone for 18 hours. I tracked down my brother after calling my parent's house. He and my brother-in-law had rented a hotel room. ... They'd also notified search and rescue.

The bad thing is, I didn't save myself one iota of humiliation. My brother still teases me to this day about the incident.

I was lucky. My lack of planning and my pride could have cost me big.

As it is, some young country boy will probably read this, shake his head and disdainfully mutter, "City folk."

Hunting Commandments

1. Firearms and alcohol or drugs (including the prescription kind) do not mix.

2. Never point the muzzle of a gun at anything you don't intend to shoot.

3. When hunting in a party, always point the muzzle in a safe direction.

4. Leave on the safety until you are ready to shoot.

5. Know your target and what's beyond your target.

6. Sharpen your gun handling skills by attending a formal hunter-safety course.

7. Treat every firearm as if it's loaded.

8. Always use common-sense principles when in the woods.

9. Carry a compass, cell phone, matches, food, water, etc., with you just in case.

10. Finally, remember that the most valuable tool you have for guaranteeing everyone's safety, including your own, when hunting is between your ears. Use your head, watch the actions of fellow hunters, and correct them on the spot if you feel a situation is becoming dangerous.

— Compiled from Hunter's Safety Course

MYSTERY IN THE RAPTOR

Officials discuss previously unexplained events in F-22

By **Amaani Lyle**
Photo by Master Sgt. **Kevin J. Gruenwald**

Following months of life support systems components testing in the F-22 Raptor, officials have "determined with confidence" the source of previously unexplained physiological incidents, the director of operations for the Air Force's Air Combat Command said July 31 at a Pentagon news conference.

Since September 2011, when the aircraft returned to flight operations, the Air Force has worked to determine why a small number of pilots have experienced symptoms such as dizziness while flying or disorientation post-flight, and to reduce the risk of those incidents. In January 2012, the Air Force created the F-22 Life Support Systems Task Force, which consists of approximately two dozen Air Combat Command specialists and hundreds of others from across the Air Force and other governmental agencies, including NASA and the Navy, as well as industry partners.

The combined medical disciplines of flight medicine, toxicology, physiology, human factors and occupational health have enabled the service to assemble "pieces of the mosaic" that reside in the cockpit, said Maj. Gen. Charles W. Lyon, who was designated by Air Force Secretary Michael B. Donley in January to lead an investigative task force. The general pinpointed the upper pressure garment, oxygen delivery hoses, quick connection points and the air filter canister, that had been used for a few months in the aircraft, as contributing factors to previously unexplained physiological incidents in which some pilots complained of hypoxia-like symptoms.

"As we completed end-to-end testing in the life support systems components, we are able to piece together the contributing factors for our previously unexplained incidents," Lyon said, crediting an "integrated, collaborative approach by government and industry" in helping the Air Force develop its findings. The task force, Lyon said, leveraged the investigative efforts of numerous safety investigation boards and the Air Force's Scientific Advisory Board to eliminate contamination as the root cause of the incidents.

***Pulling into a vertical climb over the Nevada Test and Training Range near Las Vegas**, the F-22 Raptor is back in action after two separate safety stand-downs. Air Force officials have implemented risk management measures to protect their pilots from hypoxia-like symptoms that led to the fleet's temporary stand-down.*

At a July 31 press conference in Washington D.C., *Lt. Col. Jay Flottmann (left) explains how a valve in the upper pressure garment and the shape and size of oxygen-delivery hoses and connection points contributed to previously unexplained physiological issues during F-22 Raptor flights. Flottmann is a flight surgeon and 325th Fighter Wing chief of flight safety at Tyndall AFB, Fla.*

Maj. Gen. Charles Lyon (below), director of operations at Headquarters Air Combat Command, *talks about a new valve that regulates the proper flow of oxygen to an F-22 Raptor pilot's vest during a press conference in Washington, D.C., July 31. The valve is in testing and should be installed by the end of the year.*

PHOTOS BY SENIOR AIRMAN CHRISTINA BROWNLOW

Air Force officials used intensive altitude chamber and centrifuge protocols to isolate variables in the flight gear and cockpit connections, the general said. They also analyzed thousands of samples of gases, volatile and semi-volatile compounds, solids and liquids, and compared that data to occupational hazard standard levels.

"Managing risks to our F-22 force has always been pre-eminent as we work through this complex set of factors," Lyon said. "In the end, there is no 'smoking gun.'"

The fleet, grounded for five months last year, has flown nearly 8,000 sorties totaling more than 10,000 flight hours since its last reported unexplained incident in March, Lyon said.

As a result, at the end of July, Defense Secretary Leon E. Panetta approved a gradual lifting of restrictions he placed on F-22 flights in May.

In a recent update to Panetta that led to the decision to roll back the restrictions, Air Force officials said the service employed thorough, in-depth analysis to eliminate contamination as a contributing factor to its most recent incident and charted a path to eliminate all significant contributing factors today and in the future.

"We left no stone unturned in the investigative process. … In the end, there is no 'smoking gun.'"

"We left no stone unturned in the investigative process," Lyon said, adding that the service will continue to move forward with enhancements and fixes as NASA concludes an independent investigation.

The Air Force's investigative process also involved canvassing the F-22 communities to gauge pilot, maintainer and family member confidence in the aircraft's safety, Lyon said.

"I recently visited our F-22 bases, and I can tell you, their confidence is high," he said, noting that no hybrid high-altitude flight operations and high-maneuverability aircraft could be completely immune to such incidents. "There's no other aircraft our pilots would rather fly in the service of our nation," he added.

Underscoring this sentiment, Air Combat Command's top general completed F-22 Raptor pilot qualification June 27, reinforcing his personal stake in the Air Force's efforts to identify the root cause of unexplained physiological incidents involving a small number of Raptor crews.

"As Airmen, risk is part of our lives as members of the military," said Gen. Mike Hostage, the commander of Air Combat Command. "I'm asking these Airmen to assume some risk that exceeds the norm in day-to-day training, and I have to be willing to do it myself and experience firsthand what they do."

Hostage completed his F-22 qualification training with the 325th Fighter Wing at Tyndall Air Force Base, Fla.

"Flying the airplane allows me to understand exactly what our Airmen are dealing with," Hostage said. "It's an amazing airplane to fly, and I'm confident in the procedures we have in place to help enhance crew safety."

Lyle is with the American Forces Press Service in Washington D.C. Justin Oakes, with Air Combat Command Public Affairs at Langley AFB, Va., contributed to this article.

HYPOXIA 'DOCS'

PHYSIOLOGY TRAINING COMBATS HUMAN FACTORS OF FLYING

By **Dan Hawkins**
Photo by Master Sgt. **Jeffrey Allen**

One of the secrets behind nearly 75 years of U.S. air dominance is the quality of its pilot training. But long before students learn to identify, out-maneuver and defeat enemy aircraft, they have to learn to deal with a much more subtle but no less dangerous threat: hypoxia.

Essentially a lack of oxygen in the brain and blood, hypoxia first became a factor in military aviation during World War I as better aircraft enabled pilots to reach higher altitudes where there is less oxygen — an environment the human body is not designed for.

"Pilots are basically normal people in a very abnormal, dynamic environment," said Capt. Matthew Ramage, who is assigned to the 82nd Aerospace Medicine Squadron at Sheppard Air Force Base, Texas. "Our job in flight medicine is to make sure pilots are both physically fit and mentally prepared to deal with the unique stressors placed on their bodies in an aerospace environment."

Once pilot trainees meet the rigorous battery of medical testing prior to starting undergraduate pilot training, they begin physiological training, where they learn about cabin pressurization and oxygen systems. In all, students get 50 hours of physiological instruction in their first year of pilot training.

The training includes classroom time as well as hands-on time with equipment. But the heart of the program is the altitude chamber, where students get a personal experience with oxygen deprivation as well as a chance to observe how it affects their peers.

Given the high-performance qualities of modern aircraft, pilots may have only seconds to take corrective actions once the signs of hypoxia are evident, Ramage said. Complicating this is the fact that often, hypoxia initially creates a sense of euphoria, he added.

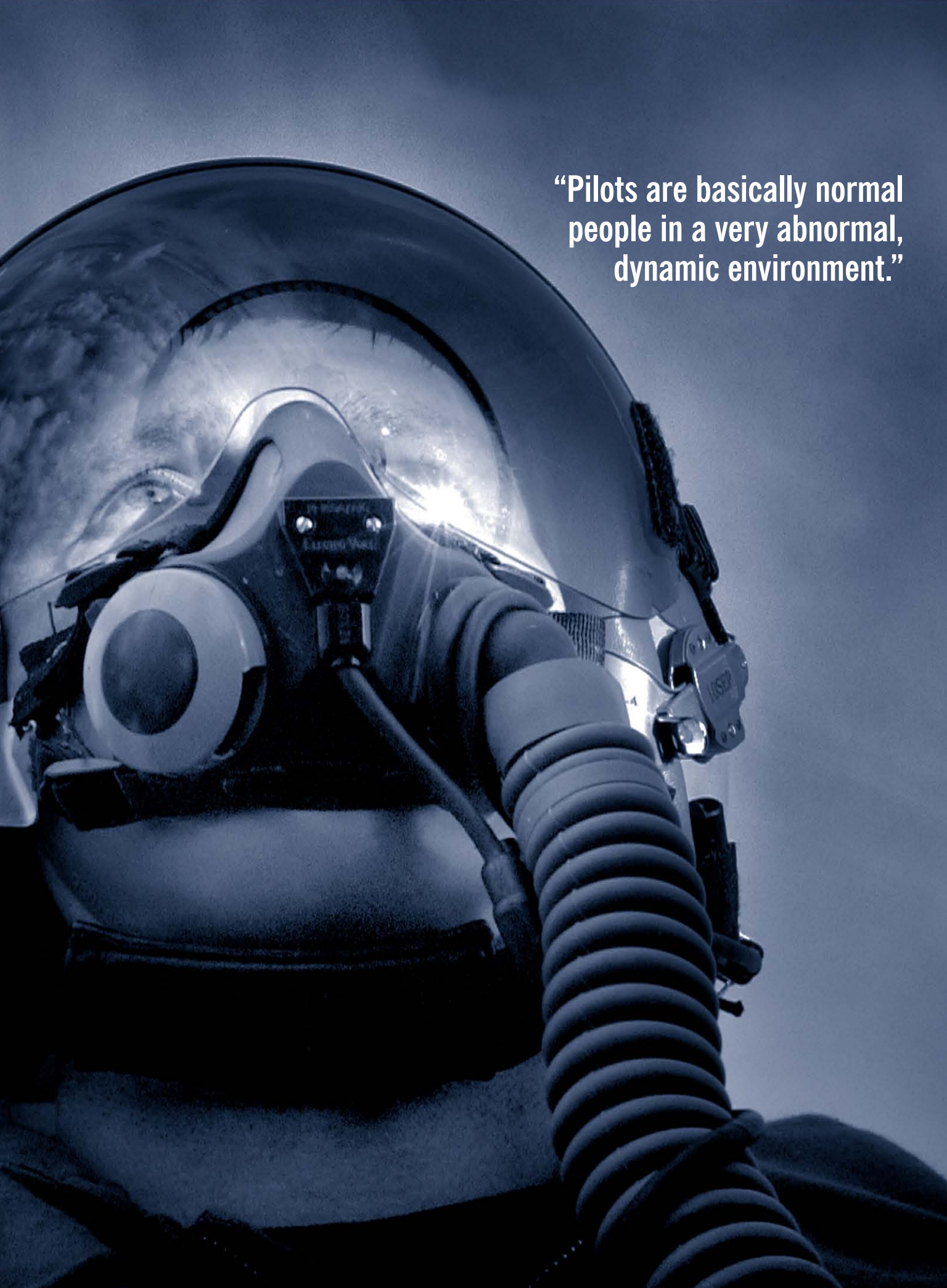
That's why hypoxia training requires pilots to complete specific actions under reduced oxygen conditions, including locating and activating oxygen equipment, turning on the regulator, checking connections, ensuring the safety of fellow aircrew members, descending below 10,000 feet and landing safely.

At Sheppard, everyone entering undergraduate flight training is required to visit the 82nd AMDS.

For Maj. Eydin Hansen, the 82nd AMDS aerospace and operational physiology flight commander, ensuring Airmen are trained to maximize human performance and combat human factors that can derail them and their aircraft in flight is the bottom line.

"Completing a flight physical, altitude chamber and centrifuge training, not to mention all the academic hours needed for high performance flight, is just the first step," Hansen said. "The next step is operating safely in a dynamic flight environment, let alone under duress. In our business you may only get one chance to get it right, so their decisions have to be accurate and second nature."

Mr. Hawkins is with the 82nd Training Wing Public Affairs at Sheppard AFB, Texas. (AETCNS)


“Pilots are basically normal
people in a very abnormal,
dynamic environment.”

CLEAR THE RUNWAY

UPDATE

SAVING PILOTS, PLANE NETS CAPTAIN KOLLIGIAN TROPHY

BY TECH. SGT. SAMUEL BENDET

WASHINGTON (AFNS) — Air Force Chief of Staff Gen. Norton Schwartz presented Capt. Frank Baumann, an instructor pilot from the 80th Flying Training Wing at Sheppard Air Force Base, Texas, one of the Air Force's most prestigious flight safety awards during a Pentagon ceremony here June 27.

Baumann was named the 2011 recipient of the Koren Kolligian Jr. Trophy for his ingenuity and bravery in recovering a T-6 Texan II after a severe flight-control malfunction in September of 2011. He and his student pilot, 2nd Lt. Derek Olivares, were featured in the Winter 2011, issue of Torch in the story "Three-legged Race in the T-6 Texan II."

When his flight controls failed, Baumann — who was in the rear seat of the aircraft — could no longer control the elevator, and his student could no longer control the ailerons. To safely land the aircraft, it would take two people operating different flight controls.

Baumann remained calm and was able to direct the student pilot verbally in controlling the elevator, while he manipulated the ailerons and rudders, resulting in a safe recovery and uneventful landing.

Schwartz lauded Baumann as an aviation professional whose cool demeanor and level-headed thinking resolved a potentially fatal situation, saving himself and the student pilot with whom he was flying.

"Flying is fun when it is all going routinely, but there are times in our business when one needs to apply skill and cunning, whether it be in combat or in a safety-related situation like you experienced," Schwartz said to Baumann.

Baumann gave credit to all those who helped him that day, including his student, his wingman, the maintainers and other Airmen on the ground, and his unit's leadership.

"We formed a team, and the communication and ideas that were provided to [the student pilot] and me were outstanding," Baumann said. "We were able to save the airplane as a team, because I was given the gift of great, professional individuals around me."

BY MICHAEL J. PAUSIC

Former Air Force Chief of Staff Gen. Norton Schwartz *presents the Koren Kolligian Jr. Trophy to 2011 recipient Capt. Frank Baumann during a Pentagon ceremony June 27. Baumann is an instructor pilot stationed at Sheppard Air Force Base, Texas. The trophy, established in 1958, is the only Air Force individual safety award personally presented by the Air Force chief of staff.*

The trophy is presented each year by the Air Force chief of staff in the name of 1st Lt. Koren Kolligian Jr., an Air Force pilot declared missing in the line of duty when his T-33 Shooting Star aircraft disappeared off the coast of California in 1955.

The award was established in 1958 and recognizes outstanding airmanship by an aircrew member. The crewmember must show extraordinary skill, alertness, ingenuity or proficiency in averting or minimizing the seriousness of a flight mishap.

Baumann, the 54th recipient of the trophy, said he is extremely humbled to receive such an honor. The captain also said he was blown away when he found out Schwartz, who has since retired and was replaced by Gen. Mark Welsh III in August, and the Kolligian family would be at the ceremony.

"One of the reasons we are as effective an Air Force as we are is simply that our aviators are able to recognize a condition, use their training and skill to deal with it and, most importantly, bring the aircrew home," Schwartz said. "That is certainly what occurred in this case."

For more details about Baumann's harrowing flight, read the feature in the Winter 2011 Torch at *www.torch.aetc.af.mil* (click on the archive link).

CADETS BREAK COLLEGIATE PARACHUTING RECORD

AIR FORCE ACADEMY, Colo. — The Air Force Wings of Blue Parachute Demonstration Team broke the collegiate record for largest formation March 31 in Gila Bend, Ariz.

Forty-six cadets jumped from 16,500 feet and took 52 seconds to build the formation. They held the formation for 10 seconds before breaking off at 6,500 feet.

The team actually broke their own record of a 41-person formation that they set in March 2008.

The plan was to set a 48-person record, but with poor weather cutting the number of attempts from a planned 10 jumps to five, they had to cut two cadets from the jump to have a better chance of completing it. The team made three attempts on the first day and eventually completed the attempt on the second jump of the second day.

Overall, more than 75 people were involved in the jump including six pilots, three videographers and three maintainers. There were nine sophomores, 22 juniors and 15 seniors in the formation. The oldest cadet was 25-year-old Cadet 1st Class Shawn Johnson, who completed his 901st jump during the attempt. The youngest was 19-year-old Cadet 3rd Class David Moore, who completed his 149th jump.

USAF PHOTO

Air Force Academy cadets *form up while attempting to break the largest formation collegiate record with a 46-person formation March 31 in Gila Bend, Ariz. The cadets broke their own record of a 41-person formation they set in March 2008.*

YOUNG AVIATOR SETS AIR FORCE STANDARD

DYESS AIR FORCE BASE, Texas (AFNS) — When former Chief of Staff Gen. Norton Schwartz said "every Airman is an innovator," he was talking about Airmen like Capt. Kyle Alderman.

What was once considered the young pilot's "pet-project" has now become the Air Force standard.

Alderman consolidated multiple map displays including killbox keypads, satellite and drop zone imagery and probability ellipses into one heads-up digital map, providing C-130J Hercules aircrews one-look situational awareness and enhanced digital map capabilities.

"The J-model already had the capability to display map information; however, when we would operate in Afghanistan or in large-scale exercises, there was so much tactical information we needed multiple maps and displays," Alderman said. "It was very task saturating for pilots to sort through several items, while still trying to operate the aircraft, especially at night or in hostile environments."

Alderman noticed the issue while attending C-130J school at Little Rock Air Force Base, Ark., in early 2010 and began researching and educating himself on the programming the aircraft would need to make his "digi-map" possible.

That's when he came across a piece of geospatial software and figured out he could build his own map that the plane could read, while incorporating the several displays into one consolidated moving map.

USAF PHOTO

Capt. Kyle Alderman *consolidated multiple map displays including killbox keypads, satellite and drop zone imagery and probability ellipses into one heads-up digital map, providing C-130J aircrews one-look situational awareness and enhanced digital map capabilities. Alderman is a C-130 pilot.*

"Once I was able to create the format I needed, I got it on the plane, saw that it worked, proved it was possible and then tried to get it approved through the Air Force," he said.

Shortly after putting the finishing touches on his project, Alderman deployed and decided to take the new software with him.

"I showed my deployed commander that we can give our pilots the capability to display this information in a consolidated format," he said. "He loved it and pushed it up the chain of command, which exponentially increased the process."

After the new software was tested on aircraft and proven effective in January 2011, Alderman's innovative project was flown for the first time during combat operations that summer.

What potentially saved the Air Force millions of dollars, took the ingenuity of only a single Airman who never sought recognition, but instead just wanted to contribute anyway he could to the mission.

"If I can save one brain byte and let the pilots focus on something else during their mission because they could see the information quickly on the digital map, it was well worth the time spent trying to get it designed and approved," Alderman said.

— Airman 1st Class Charles V. Rivezzo
7th Bomb Wing Public Affairs