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THE MOBILITY FORUM

ON THE COVER

TSgt Andrew Gravett walks along the top of a C-17 Globemaster III while wearing a safety harness as he does a routine maintenance check of the aircraft at Joint Base Charleston, S.C. Gravett is a crew chief assigned to the 437th Aircraft Maintenance Squadron.

USAF PHOTO BY SRA DENNIS SLOAN

REGULAR FEATURES

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Since my assumption of command in early September, I’ve had the opportunity to engage over the first 100 days with many amazing units and Airmen who work within the U.S. Air Force Expeditionary Center (EC) enterprise. I’ve been witness to excellent trust, competence, and responsiveness—values I hold very dear. As I settled back in at the EC headquarters in New Jersey after much travel, I reflected upon the uniqueness of our mission.

Our mission, under the EC, is to deliver “Airpower … from the ground up!” Almost 20 years ago, the Air Mobility Warfare Center opened its doors to deliver this same mission. Since then, EC Airmen have been part of a proud airpower heritage, a heritage that has carried us into a matured mobility and expeditionary enterprise. The members who work within the EC have operated across generations of war fighting and mobility missions—proving to be the best at what they do and truly maximizing each other’s capacity. In the past year, we’ve faced a multitude of challenges: reductions in funding, manpower shortages, and a wide array of contingencies spanning all corners of the globe.

“I believe the EC to be the center of gravity for all Air Force boots-on-ground operations.”
Despite these considerable challenges, the resolve of EC Airmen has not wavered. These AMC warriors have triumphed in the face of difficulty and overcome situations that would have broken the Air Force of a lesser nation. I believe the EC to be the center of gravity for all Air Force boots-on-ground operations. We are proud Airmen who fight this nation’s wars and contribute to our nation’s ability to fly, fight, and win through our ground-based efforts. We not only augment the fight or the response, but we also accelerate it through the expeditionary enterprise of the Air Force. In short, we prepare and send Airmen anywhere their skills are needed, including into harm’s way.

Those who go forward must be properly trained, maximizing the odds of mission success and minimizing risk of injury to themselves or friendly forces. It is here at the EC that we prepare Airmen to answer the call anytime and anywhere. Joint partners and a number of worldwide customers rely on our trained Airmen to push forward their missions. Finally, it is here that we proudly shape global response with a tremendous commitment to responsiveness.

The depth and scope of our Expeditionary Center mission is enormous. Our 14,000 Airmen located throughout the globe are masters of their craft, expertly providing installation support, contingency response, en route mobility mission acceleration, and training while building partnership capacity. Furthermore, we thrive in the joint environment. While the Navy covers the sea domain and the Army operates in the land domain, it is the speed, range, and flexibility of the Air Force that makes airpower essential to a global joint team.

Our vision drives us to deliver world class support fueled by innovative Airmen. Fiscal constraints will continue to force us to develop new and innovative ways to safely complete the mission. We must communicate across the command to build our intellectual capacity and prevent stovepipes in processes and procedures. This will enable us to meet the increasing challenges and contingencies around the globe and allow us to provide the same world-class support. All of this is fueled by Airmen at all levels—each making a difference! I remain extremely proud of the hard work the EC has accomplished over the past year, and I look forward to further increasing our capabilities and strengthening our partnerships in the year ahead.

Our mission, under the EC, is to deliver “Airpower … from the ground up!”

Maj Gen Rick Martin, USAF Expeditionary Center commander, presents TSgt Patrick Raible, 3d Aerial Port Squadron, with his coin after receiving a mission briefing about the 3d Aerial Port Squadron during his tour of 43d Airlift Group units. Sgt Raible overcame Air Force and Army communication challenges in order to establish the Global Air Transportation Execution System connectivity in the passenger sheds. This initiative ended an eight-year in-transit visibility issue and reduced passenger processing time by 80 percent.

USAF PHOTO BY MARVIN KRAUSE
Identifying the Touchdown Point: The Long and Short of It

By MAJ SCOTT KULLE
C-17 Weapon System Safety
HQ AMC Flight Safety

At the end of the day, at the end of each flight, what is my goal? It’s to go home after safely flying, and it’s even sweeter if the airplane is A-1 and ready to fly again. So, if the takeoff and mission employment phase go well, what else can go wrong? At AMC Safety, and in operations under FAA oversight, a consistently large number of events keep aircrew from going home happy. It’s the landing phase—more specifically, runway excursions (Flight Safety Foundation, 2013).

What is a runway excursion? Simply stated, a runway excursion is off-roading with an airplane due to landing short of the runway, failing to stop by the end of the runway, or driving off the side of the runway. So, why did I elect to write about this? In recent history, there have been some significant landing errors. In one event, a C-130 landed long, departed an AOR runway, and was destroyed. Shortly before that event, a C-17 departed a snow covered runway and was significantly damaged. More recently, two AMC aircraft landed short of the intended runways, one with Class A damage and luckily, the second suffered no damage. Evidence exists of other short touchdowns, but aircraft were not damaged in those events. Finally, an aircrew narrowly avoided a tragedy by recognizing at the last moment that they were about to touch down two miles short of their runway—on a house.

To accomplish a glorious safe landing as a superhero of the not-so-friendly skies, you must be able to identify your landing zone and touchdown point properly. This identification process is macro initially and is refined to a smaller micro perspective as the aircraft approaches the runway.

“What do I expect to see?” Initially, pilots look at the field relative to arrival, the runway configuration, and its relationship to surroundings. As we get closer to the field, we look for lights, painted markings, panels, runway surface condition, and barriers that may present hazards to a safe landing. This mental model of what we anticipate at a field is built during mission planning and then reviewed and updated during the arrival/approach brief. Of note, Line Operations Safety Audits (LOSA) and mishap investigations have shown trends of insufficient approach and arrival briefings—maybe the mental model isn’t sufficiently formed.

“What if what I see does not match my expectation?” If you have been thoroughly briefed and the airfield in view is not representative of the expected mental model, it may be time to rethink your landing decision. From this point in on the approach, you have to decide where to put rubber to asphalt, concrete, or dirt. This decision will be driven by your Takeoff and Landing Distance (TOLD) calculations and any other...
special guidance for your aircraft. This may sound simple for anyone who has graduated pilot training, but mishaps point to crew misinterpretations of TOLD numbers meanings. The crew must know where you plan to touchdown, where you expect to stop or exit the runway, and what point drives a go-around if touchdown has not occurred.

In the C-17, crews use a descent technique for determining when we have gone past our latest touchdown point. This highly technical method is based on counting “one potato” beyond the time the end-of-assault-zone line or panel passes the cockpit. Adding to the accuracy is that this is all based on your task-divided peripheral vision. As I sat contemplating this article, it occurred to me that I did not have a good technique for visually identifying a short touchdown when mission circumstances dictate the aircraft touchdown very precisely in the first 500 feet. This becomes even more critical with the common C-17 technique of aiming for the first third of that 500-foot zone.

Have I ever feared for my life based on this situation? No. However, if you look at satellite photos of assault zones, it’s apparent there is a lack of ability to recognize a potential short touchdown. This visual is in direct contrast to the relatively few long landing tire marks. I encourage you to consider this issue, discuss it in your squadrons and wing, and hangar fly it. Though a manpower obligation, an assault zone monitor (think RSU controller) could sit in a vehicle alongside the assault zone and provide instant feedback to the aircrew as to their touchdown point. This would inevitably build accurate mental models of what a “good” landing is. Currently, Charleston’s North Field implements a variation of this proposal.

Without a fail-safe outside observer to tell us where we touch down, how can we help ourselves? Our first line of defense is solid training, coupled with a clear understanding of use and application of T.O., AFI, and TTP guidance, as well as practice of sound risk management. Build a mental model to provide expectations, and conduct thorough briefs to ensure all crewmembers are aware of the objective, pitfalls, and go-around points. Understand the T.O. 1-1 TOLD implications; understand FMC/FMS inputs and outputs. Safe operations always begin with the basics!

If you find yourself questioning whether the approach should continue, frame the decision with the following question: “What would the SIB say about my decision?” You are the advocate for the Air Force, your crew and passengers, their families, and the mission. It doesn’t matter what crew position you are in or how junior you are—you have an obligation to help ensure you can go home happy.

Flight Safety Foundation (2013)

Runway Excursion Risk Reduction Toolkit

Approach and Landing Accident Reduction

Flight Safety Foundation (2013)
AMC FLIGHT SAFETY is proud to spotlight the 101 Maintenance Group (MXG), Maine ANG, for proactive mishap prevention efforts in identifying and mitigating C/KC-135 hydraulic system failures caused by chafing Air Refueling (AR) pump hydraulic lines. While troubleshooting an aircraft that had a hydraulic leak and was subsequently grounded at Bangor International Airport, hydraulic specialists discovered a leak caused by two AR pump hydraulic lines chafing each other. Rather than simply replacing the lines and closing out the discrepancy, the specialists took the initiative and looked deeper at the failure to determine if there were potential fleet-wide trends. Maintenance analysts searched historical records from other aircraft and discovered there had been similar events on other KC-135 aircraft. Additionally, technicians from the 101 MXG Inspection Dock analyzed an aircraft undergoing a Periodic Inspection and discovered chafing on its AR pump hydraulic lines.

The 101 MXG immediately initiated a One Time Inspection of all its aircraft and discovered 70 percent of their fleet had some chafed AR pump hydraulic lines. They up-channeled their findings to the ANG and AMC A4M communities so appropriate risk assessments and mitigation actions could be performed. After a coordinated effort with the KC-135 System Program Office, a 90-Day Routine Safety Time Compliance Technical Order was issued to inspect for and repair chafed AR pump hydraulic lines on all C/KC-135 aircraft in the AF inventory.

An in-depth review of inspection work cards identified improvement areas to mitigate future AR pump line chafing. The 101 MXG drafted and submitted an AFTO Form 22, Technical Manual Change Recommendation and Reply, to add inspection of all AR pump hydraulic lines to the 24-Month Periodic Inspection work cards.

As a direct result of the motivation and initiative exhibited by the 101 MXG, the entire C/KC-135 fleet flies safer today. We commend the Maineiacs of the 101st Air Refueling Wing Maintenance Group for their dedicated safety culture. Well done!
AMC’s Annual Safety Award Winners

AMC Flight Safety Awards

Director of Safety Aircrew of Distinction
Crew of Bolt 35, 6 AMW, 91 ARS, MacDill AFB, FL

Aviation Maintenance Safety Award
MSgt Chad P. Jensen
22 ARW, 22 MXG, McConnell AFB, KS

Safety Officer of the Year
Maj Anthony Mariapain
22 ARW, McConnell AFB, KS

Flight Safety NCO of the Year
MSgt Christopher L. Gill
19 AW, Little Rock AFB, AR

AMC Ground Safety Awards

Distinguished Ground Safety Award (Large/Composite Wing)
19 AW, Little Rock AFB, AR

Distinguished Ground Safety Award (Small Wing)
92 ARW, Fairchild AFB, WA

Distinguished Ground Safety Award (Associate/Tenant Organization)
62 AW, Joint Base Lewis-McChord, WA

Distinguished Ground Safety Award (Geographically Separated Unit)
732 AMS, 515 AMOW
Joint Base Elmendorf-Richardson, AK

Ground Safety NCO of the Year (Primary)
TSgt Calvin B. Grade Jr.
515 AMOW, 730 AMS, Yokota AB, Japan

Ground Safety NCO of the Year (Additional Duty)
SSgt Travis W. Danahy
521 AMOW, 729 AMS, Lajes Field, Portugal

Distinguished Motorcycle Safety Award (Large Organization)
628 ABW, Joint Base Charleston, SC

RiderCoach of the Year
SSgt Daniel L. Grove
436 AW, Dover AFB, DE

Other AMC Safety Awards

Risk Management Achievement Award
3 AS, 436 AW, Dover AFB, DE

Outstanding Safety Civilian of the Year (Primary)
Mr. Richard S. Myers
19 AW, Little Rock AFB, AR

Outstanding Safety Civilian of the Year (Additional Duty)
Mr. Kim L. Lilly
437 AW, 437 MXS, Joint Base Charleston, SC

Safety Office of the Year
436 AW, Dover AFB, DE

Safety Special Achievement Award
TSgt Calvin B. Grade Jr.
515 AMOW, 730 AMS, Yokota AB, Japan

AMC Weapons Safety Award

Explosives Safety Individual of the Year
TSgt Byron K. Allen
375 AMW, Scott AFB, IL

Nuclear Surety Individual of the Year
Mr. Thomas E. Thompson
62 AW, Joint Base Lewis-McChord, WA
Maj Anthony Mariapain is the Chief of Flight Safety, 22d Air Refueling Wing, McConnell AFB, KS. He is responsible for training, implementing, and directing the flight safety program of the 22 ARW. He works alongside the 931st Air Refueling Group, Boeing, Spirit Aviation, and Cessna safety personnel to provide an integrated flight safety mishap prevention and response at McConnell AFB. Additionally, he served as the interim Chief of Safety from January to March and provided a seamless transition of three Chiefs of Safety.

During this period, Maj Mariapain launched a MACA program utilizing social media, which enables cross talk with 70 airfields within 50 miles of Wichita, known as the “Air Capital” of the United States. Maj Mariapain created a vigorous education program, keeping education relevant and current to McConnell AFB aircrews. He leads a stellar BASH program that utilizes over 100 off-installation landowners to mitigate wildlife hazards.

Maj Mariapain graduated from United States Air Force Academy and Gonzaga University in 2001 and 2008, respectively. His is currently a KC-135R/T instructor pilot and previously served in various positions, including evaluator pilot and assistant director of operations. On a previous assignment, he was a UV-18B functional check flight/evaluator pilot and adjunct academic instructor. Maj Mariapain is a distinguished graduate of KC-135R/T Aircraft Commander Upgrade, Advanced Instrument School graduate, and attended the AMC-AFRC Orientation Program.
MSgt Christopher L. Gill is the Superintendent, 19th Airlift Wing Flight Safety, Little Rock AFB, AR. He is the principal advisor on matters affecting flight safety for the world’s largest multi-command (AMC and AETC) C-130 aircraft installation and AMC’s second largest air wing. His responsibilities include investigating, reporting, and disseminating mishap information to more than 4,000 aircrew and maintenance members in hopes of reducing and preventing future mishaps. Additionally, he tracks trends, reports aircraft mishaps, and advises the Chief of Safety on maintenance concerns affecting safe repairs and operations on over 88 assigned C-130E/H/J aircraft with totals exceeding $2 billion in assets.

MSgt Gill is a native of Huntsville, AL, and entered the Air Force in January 1993. He began his career as a Hydraulic Systems Apprentice and has served in various positions and fields: Pneudraulic Systems Craftsman, KC-135R Hydraulic Systems Shop Chief, C-130E/H and J Hydraulic Master Instructor, C-130H/J Section Chief, and Superintendent of Wing Safety, Flight Safety NCO. His assignments include Malmstrom AFB, MT; MacDill AFB, FL; and Little Rock AFB, AR. He also served overseas, deployed to Italy, France, Spain, Turkey, the Azores, Saudi Arabia, and Afghanistan in support of Iraqi Freedom, Operation Deny Flight, Decisive Endeavor, Northern Watch, and Enduring Freedom.
TSgt Byron K. Allen is the Weapons Safety Manager for the 375th Air Mobility Wing, Scott AFB, IL. He is solely responsible for implementing the weapons safety program for the entire installation, in addition to providing safety oversight and support to 23 tenant units.

While deployed, he created numerous Explosives Site Plans for multiple Africa Command airbases, establishing munitions storage operations and combat aircraft parking that provided deployed Combatant Commanders with kinetic air power. As the Scott Air Force Base Weapons Safety Manager, he personally trained 38 additional duty weapons safety representatives and authored a comprehensive training and compliance guide. TSgt Allen also led munitions operations in the first ever Military Ocean Terminal Concord Air Force Prepositioned Fleet refresh operation, loading the Motor Vessel Bennett with 4.6 million pounds of net explosive weight. This returned the vessel to Pacific Command ahead of schedule, saving the Air Force over 5 million dollars.

TSgt Allen is a native of Enterprise, AL, and entered the Air Force in 1998. He began his career as Munitions Systems Apprentice and has served in various positions and fields: Conventional Maintenance, Munitions Control, Senior Munitions Inspector, and Precision Guided Munitions (Missiles). His assignments include Barksdale AFB, LA; Kunsan AB, South Korea; Elmendorf AFB, AK; RAF Lakenheath, United Kingdom, and finally Scott AFB, IL. He has deployed numerous times in support of Operation Allied Force, Enduring Freedom, Iraqi Freedom and New Dawn.
TSgt Calvin Grade Jr. is the NCOIC of Safety for the 730th Air Mobility Squadron, Yokota AB, Japan. TSgt Grade is responsible for implementing the commanders’ safety program and providing safety program oversight and support for all AMC transient aircraft. His background includes the management of all ground, flight, and weapons safety programs.

Over the past year, TSgt Grade led many successful safety initiatives. He established an OSHA outreach training program for his host Wing, where he trained 75 managers in employee rights and employer responsibilities. He created and published a new mishap reporting form, which ensured supervisor recommendations were up-channeled to the appropriate commander. TSgt Grade also identified and mitigated several critical hazards through his robust spot inspection program.

TSgt Grade majored in Occupational Safety and Health at Columbia Southern University. There he completed a bachelor’s degree in 2010 and a master’s degree in 2012. He is currently pursuing a Ph.D. in Public Safety from Capella University.

TSgt Grade is a native of Baltimore, MD, and joined the Air Force in 1998. He began his career as a supply apprentice. His supply assignments include Minot AFB, ND; Moody AFB, GA; Eglin AFB, FL; and Andrews AFB, MD. Tsgt Grade re-trained into Ground Safety in April 2004. His safety assignments include Luke AFB, AZ; Kadena AB, Japan; Tyndall AFB, FL; and Yokota AB, Japan. He has deployed numerous times in support of Operation Enduring Freedom and Operation Iraqi Freedom.
SSgt Daniel L. Grove is a C-17 Loadmaster assigned to the 3d Airlift Squadron at Dover AFB, DE. He was born at Eglin AFB, where his father was a member of the Air Force Reserve.


In 2010, SSgt Grove volunteered for an extended tour for AMC’s C-17 Afghanistan surge operations in support of Operation Enduring Freedom. He served four more tours of duty to fly missions in support of Operations Enduring Freedom and New Dawn.

SSgt Grove is currently on an extended active duty tour assigned to the 436 AW, 3d AS. An avid motorcyclist, he has served as the 512th Airlift Wing Motorcycle Safety Program NCOIC and the 326 AS Motorcycle Safety Representative. In 2011, he became certified by the Motorcycle Safety Foundation to teach the Basic Rider Course, Experienced Rider Course, Military Sportbike Rider Course, and Advanced Rider Course. In addition to instructing nearly 200 personnel in three years at Dover AFB, he voluntarily takes fellow enthusiasts to the track in conjunction with Dover Track Days to continue their advanced training. SSgt Grove is an active member of the Desert Knights Motorcycle Club and is working toward an associate’s degree in Aircrew Operations.
SAFETY CIVILIAN OF THE YEAR

Mr. Richard S. Myers
19 AW, Little Rock AFB, AR

Mr. Richard S. Myers is the Wing Ground Safety Manager for the 19th Airlift Wing, Little Rock AFB, AR, where he manages the Wing’s Ground Safety Mishap Prevention Program for the world’s largest multi-command (AMC and AETC) C-130 aircraft installation and AMC’s second largest air wing. He has been a part of the Little Rock AFB’s Wing Ground Safety Office since 1996, first as an active duty member, then as an Air Force civilian. With the activation of the 19th Airlift Wing in October 2008, he was appointed as the Wing’s Ground Safety Manager.

Mr. Myers’ contributions helped the 19th Airlift Wing Ground Safety Office earn Air Mobility Command’s Distinguished Ground Safety Award (AMC Large Unit) and the USAF Ground Safety Plaque for 2010, 2011, and 2013. He led the Ground Safety Program through Air Mobility Command’s first-ever Unit Effectiveness Inspection, earning “Wing Safety Team Exceptional Performer” recognition from the Inspector General.

Mr. Myers is a native of Pennsylvania and entered the Air Force in 1980. After basic and security police training, he worked as security policeman for 15 years until retraining into the Ground Safety career field in 1995. Mr. Myers retired from active duty in 2003 and began his career as an Air Force civilian.
Mr. Thomas E. Thompson is the Wing Nuclear Surety Manager for the 62d Airlift Wing, Joint Base Lewis-McChord, WA, where he manages the Nuclear Surety Program for the Department of Defense’s only airlift unit authorized to provide transportation of nuclear weapons and critical components.

Mr. Thompson has been a part of the Air Force nuclear enterprise since 1987, first pulling alert as a B-52G aircrew member in the Strategic Air Command, and then as an AMC PNAF-qualified courier and aircraft commander in the C-141B and C-17A. He has been the Wing Nuclear Surety Manager at McChord since 2002, first as an active duty member, then as an Air Force civilian. During his military and civilian career, he has been through 24 NSIs as an inspected unit member or NSI inspector. During the April 2013 Defense Nuclear Surety Inspection, the Defense Threat Reduction Agency (DTRA) Team Chief lauded the 62d Airlift Wing’s Nuclear Surety Program as the best seen by the DTRA Team in the previous four years.

Mr. Thompson entered the Air Force in 1986, upon graduation from Carnegie Mellon University. He served as an aircrew member on five aircraft and was PRP certified for 16 of his 20 years on active duty. He also served on the AMC Inspector General Team as an inspection planner and inspector. He retired in 2006, beginning his career as an Air Force civilian.
Lt Col Jason Mills, Chief, 436 AW Safety at Dover AFB, says every Safety Office at every base works hard. But he is obviously proud of what his folks accomplished in 2013 that garnered them the 2013 Safety Office of the Year award.

“We do what’s expected,” he explained, “but we also make a proactive effort to get safety messages out rather than sitting in the background and responding to events. That’s where I think we excelled. The staff did a tremendous job of creating events that effectively pass along safety messages. For example, on Super Bowl weekend, we had an alcohol awareness event where Airmen put on beer goggles and attempted to drive a tricycle through an obstacle course. Events like that are meaningful and they work.”

Lt Col Mills also credits partners on base and off. “The Delaware Department of Transportation and Office of Highway Safety, our Reserve partners, and others provide information and resources that help make events more impactful than individual efforts.”

TSgt Janusz Jaworek (Ground Safety) agrees. “We worked with partners when possible to conduct...”
safety briefings and sendoffs. We partnered with AT&T and organized training to address distracted driving. AT&T brought in a simulator to show what it’s like to text while driving. That high-tech hands-on experience was meaningful because Airmen felt like they were actually driving and texting.”

Beyond doing what is expected, SSgt Ashley Smith (Ground Safety) says the Wing went above and beyond to expand on existing programs. “When I got here, for example, the Supervisor Safety Training wasn’t being taught as often as it should have been. I saw that and I revitalized the program. This year we taught it on a monthly basis. It’s important because it gives new supervisors the tools they need to keep the work environment safe.”

MSgt John Willard, Flight Safety NCO, thinks one key to the Safety Office’s success is the kind of passion SSgt Smith displayed—to see something that needs done and care enough to do it.

“Regulations and programs are similar base to base, but we built teams of people who had a passion to make things better. On the flight safety side, using BASH as an example, we coordinate with our CE, pest management folks, tower controllers, airfield management, our contractor—even legal. We bring teams of people together who have a passion for what they do.”

MSgt Willard cited motorcycle safety as another example. “Losing someone on two wheels is harder to accept than a combat loss because it’s preventable. People who are passionate about something like motorcycle safety emerge quickly, and we capitalize on it. They want to make a difference, so we plan events that let them. The good outcomes are because of them and their individual passions.”

Lt Col Mills says MSgt Willard is, in fact, one of those people. “His passion is evident as he counsels and coaches riders. He received the 2012 AMC Rider Coach of the Year award, and we received the AMC Distinguished Motorcycle Safety Award multiple consecutive years from AMC. That shows the program maintains its excellence, which speaks to the people that put together motorcycle safety events. We had a professional racing team come talk to riders about safe equipment, managing through fatigue, and riding in different weather environments. MSgt Willard and the motorcycle safety reps make sure riders inside our base are trained and knowledgeable about safe riding practices.”

On the Flight Safety side, Capt Aaron Klang reiterated that partners on and off base, as well as passionate individuals, make a difference at Dover. “We have a high volume of general aviation traffic around the base, which sometimes got closer to our aircraft than we prefer. We amped up our midair collision avoidance (MACA) program in the community, and we worked with Airfield Management, Air Traffic Control, squadron aircrews, and civilian pilots to mitigate that risk.”

Capt Klang says individuals spent time on weekends going to local airports to spread the word with pamphlets and presentations about MACA. “Individuals motivated
enough to do that made us stand out,” he said.

Ms. Lorie Bellamy, Ground Safety Manager, returned to Dover in mid-October after an overseas assignment, bringing some expertise back with her. “I was here a long time, gone for five years, and then came back,” she explains. “On returning, I was concerned with manning issues and thought I might come back and find some broken programs. I was so wrong. The folks here have done a phenomenal job of keeping programs afloat. I’m simply helping fine tune their already solid programs.”

Lt Col Mills says Ms. Bellamy has suggested modifications that made the Dover Safety Office even more effective. “People share things that are working in other places. We adopt what’s appropriate while carrying our own practices forward.”

Safety folks from Dover also take their knowledge elsewhere. Lt Col Mills noted that Maj Bert King and Capt Dan Morgan (Flight Safety), who are currently deployed, are carrying their expertise with them while working in their deployed offices. “Their primary mission is not safety, but once you have learned to look at things with a safety mindset you are able to influence the process to execute challenging missions in a safe manner.”

Absent the day of the interview was Mr. Ernest Natividad, Weapons Safety Manager, but Lt Col Mills praised him and his weapons safety experts. “Companies and agencies clamping in Delaware Bay occasionally dig up WW I and II munitions. The DoD and my Weapons Safety Officer are responsible for monitoring the safe destruction of these items. Last year, we worked with the Army to manage recovery and demolition of four mustard chemical rounds at a cost of roughly $2 million dollars.”

Mr. Natividad also worked with community partners to organize a unique training event. “An old elementary school was going to be demolished,” explained Lt Col Mills, “and he worked with state and local folks to conduct breeching practice. Rather than passing on the opportunity, Mr. Natividad worked with the appropriate agencies and ensured safety measures were in place to allow the training to occur with no injuries.”

The BASH program at the 436 AW is another example of effective partnerships. While every base has such a program, Dover AFB faces some monumental challenges. Birdstrike Control Wildlife Management contractor, Mr. Dave Curtiss, explains. “We are in the middle of the Atlantic flyway, the main bird migration corridor on the East Coast. Canada geese and snow geese funnel east of the Appalachian Mountains and...
either winter nearby or farther south, but the gull population is a constant threat because of the base’s proximity to Delaware Bay. We are also surrounded by agricultural fields and nearby wildlife refuges, which provide additional habitats for migrating waterfowl."

Curtiss works with landowners to gain access to private property over an approximate five-mile radius around base, striking a balance between scaring away birds and not interfering with waterfowl hunters. Dover AFB also uses a bird radar detection system provided by the Air Force Safety Center that allows for an expanded capability to identify and track bird activity.

“Our BASH program is successful because of communication and cooperation between landowners, Airfield Management, CE, the tower, FAA—everyone working together,” says Mr. Curtiss.

The 436 AW Safety Office works closely with the 512 AW Safety Office. MSgt Kevin Casquarelli from the Reserve 512 AW tells of a joint effort implementing a little-known regulation for working on aircraft in snow and ice. “It took mishaps while performing those procedures down to zero. A recent, unrelated trend analysis revealed we went a whole year with no military people involved in a lost time injury that was aircraft related, which was phenomenal.”

MSgt Casquarelli says the motorcycle safety program on base has been invaluable to Reservists but adds that the Alive At 25 defensive driving course has helped most at reducing mishaps on the 512 side. “We have over 150 people trained, and we’ve only been doing it about a year.”

Lt Col Mills also praised the Alive At 25 effort, saying, “It takes longer to teach, but the reception from Airmen is great. We don’t know how many accidents we’ve prevented, but we believe the course is saving lives.” The base’s primary instructor, who was also absent the day of the interview, Mr. Tim Hahn (Ground Safety), was recognized by the National Safety Council as the 2013 Alive at 25 Air Force Instructor of the Year. “He has trained nearly 3,000 people since the inception of this course and, to his knowledge, has yet to have a student be involved in an alcohol related driving mishap. That’s a huge success for both him and the Air Force!”

In closing, Lt Col Mills reiterated the importance of teamwork. “Our success is because of the team concept, whether working with each other, with our Reserve counterpart, with the State of Delaware, or with our base leadership. We let Airmen know that we care about them, and our efforts are worth it if we save even one person or prevent one mishap.”
Success of Proactive Safety Programs Relies on “Just Culture” Acceptance

By MR. TIM GROSZ, HQ AMC/A3TO
Chief, Operations Risk Assessment and Management System (Ops RAMS)

First, what is “Just Culture”?

A widely accepted and published definition comes from Dr. James Reason, a noted psychologist who has worked in the aviation field with the Royal Air Force Institute of Aviation Medicine and the U.S. Naval Aerospace Medical Institute, and received the 2001 U.S.A. Flight Safety Foundation/Arbus Industry Human Factors in Aviation Safety Award. He writes, “Just Culture is an atmosphere of trust in which people are encouraged to provide safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behavior.”

That sounds great, but what does this really mean, and how does it apply to Air Mobility Command’s proactive safety programs? People make mistakes. Yes, believe it or not, even aircrew members, maintainers, and other aviation professionals commit errors. If the error is an “honest” one—the kinds of slips, lapses, and mistakes that even the best people can make—then the individual should not be punished for committing or reporting the error. Don’t confuse this with a “no-blame” culture or a “get out of jail free” card. Individuals who willfully engage in behavior that displays misconduct or the intentional disregard for safety must be held accountable for their misdeeds. Airmen who do make an honest mistake should not be placed in the same category as those willful violators.

We, as an institution, can learn a lot from the identification of these self-reported errors to increase awareness of the crew force, focus training programs, and improve the level of safety before an accident happens. That’s where the proactive safety programs such as the Line Observation Safety Audit (LOSA), Military Flight Operations Quality Assurance (MFOQA), and Aviation Safety Action Program (ASAP) become so valuable. These programs are designed to gather information from the crew force during everyday activities while not under the increased scrutiny of a checkride or while flying with squadron supervision, which allows for a more realistic opportunity to identify areas where the risk for a potential accident might be mitigated. Rather than being reactive and relying solely on accident investigations to identify aircrew errors, these
programs take a proactive view to identify systemic enterprise-wide issues. By identifying and mitigating risks, we can hopefully prevent an accident. We do collect trends from evaluations, but because aircrew are on their “A” game and focused on performing to the highest standards, we don’t get a true view of everyday crew activities. For proactive safety programs to be fruitful, a Just Culture must be present.

Just Culture is inherent in the way we execute the LOSA and MFOQA programs. During a LOSA observation, the observer takes copious notes; it routinely takes 6–8 hours to complete the report for each mission. However, nothing that could potentially identify the aircrew is reported: no names, no mission numbers, no tail numbers—nothing. After the reports are sent to the LOSA contractor, they are sorted and categorized to identify trends, both positive and negative, without any identifying information. Once the contractor produces the report and delivers it to HQ AMC/SE, a Safety Investigation Board (SIB) is formed to produce actionable observations and recommendations to mitigate the risks identified during the LOSA.

MFOQA is similarly identity protected. Analysts gather information from the aircraft flight data recorders to evaluate aircrew performance at the aggregate level during all phases of flight, with the current focus on analyzing stable performance. From this analysis, we can make recommendations on where to adjust training or focus evaluations, make changes to directives or procedures, or change/upgrade aircraft equipment. However, if the gross analysis reveals an outlier (a data point that is well outside the expected range of values), a trusted agent, called a Gatekeeper, is appointed. The Gatekeeper is tasked with protecting the identity of the aircrew while gathering enough detailed information to adequately assess and mitigate the hazard or error identified. If the Gatekeeper suspects misconduct or intentional disregard for safety, the proactive safety process stops, and in line with the tenets of Just Culture, the incident is turned over to the appropriate authority for further investigation.

The program with the largest Just Culture challenge is ASAP, because we rely on aircrew members to self-report. Ideally, the individual identifies the error to the unit chain of command and simultaneously completes an ASAP. This allows analysts at the unit level to correct any local issues while consolidating inputs at HQ AMC for a system-wide analysis of trends and aircrew awareness—that is the long-term goal. In the commercial aviation industry, Just Culture is generally codified and documented in a Memorandum of Understanding (MOU) between the company, the FAA, and the pilot union, and a Letter of Agreement (LOA) between the company and the pilot union. ASAP reports are received and processed by an Event Review Committee, which includes members of the company, the FAA, and the pilot union. No disciplinary action from the company or FAA enforcement action can be taken against an ASAP submitter if the submission is timely (normally within 24 hours from the end of the flight sequence) and does not involve criminal activity, substance abuse, controlled substances, alcohol, or intentional falsification.

Unfortunately, the military cannot have this type of arrangement because we don’t have a pilot union, and numerous MOUs/LOAs would be required at multiple levels of command. So, until we can build that complete “atmosphere of trust” from Dr. Reason’s Just Culture definition that would obviate the need for formal written agreements, we have built protections into our ASAP processes. ASAPs can be submitted anonymously, but when the submitter provides his or her name, the ASAP program manager redacts it and any other pertinent information (mission number, wing assigned, tail number, etc.) to ensure identity protection before sending it out for review at HQ AMC. In addition, none of this identifying information is posted on the ASAP scoreboard.

We’re striving to gain the trust of aircrews and the confidence of leadership at all levels to move us closer to a Just Culture that will enable our proactive safety programs to be as effective as possible. You can help by continuing to support and participate in these programs.

FOR MORE INFORMATION on Just Culture, please visit [http://flightsafety.org/files/just_culture.pdf](http://flightsafety.org/files/just_culture.pdf) to read A Roadmap to a Just Culture: Enhancing the Safety Environment. This report was published by the Global Aviation Information Network (GAIN), an organization supported by the Flight Safety Foundation. It is an international industry-wide endeavor that involves airlines, air traffic control providers, employee groups, manufacturers, major equipment suppliers and vendors, and other aviation organizations.
In the spring 2012 issue of *The Mobility Forum*, MAF personnel were introduced to ongoing efforts by AMC to better manage aviator fatigue. The article, “Are You Tired of Fatigue?” did an excellent job summarizing the FAA efforts on this front since the 2009 Colgan Air Crash and MAF Aviation Fatigue Management Program, which is a comprehensive policy and training review. It’s time for an update.

In the spring of 2013, AMC transitioned from a manually scored Aviation Operational Risk Management (AvORM) Web application to an auto-populated system leveraging GDSS data. The worksheet now auto-populates the mission number, itinerary, MDS, and about half of the risk factors. Result: objective validation and less crew mental gymnastics. As of July 2013, AMC enabled the Mission Effectiveness (ME) fatigue graph within the AvORM program. Graph construction is based on planned itinerary and timing, but it will update throughout execution with changes to timing and/or itinerary. It’s important to note that this graph is an aggregate view of what might happen to the aircrew based primarily on C2 data and is not a stand-alone Go/No-Go decision-making input.

However, an important feature within the program is the aircrew fatigue and health/stress scorecard. This assessment not only captures information on the aircrew for a more detailed assessment of the crew’s physiological state, but this same information could also influence the ME graph.

As a scoring reminder to all aircrew, there are two steps to complete the fatigue and health/stress risk factors. First, as the crew scores the fatigue and health/stress card, it automatically populates the fatigue and health/stress risk score on the AvORM worksheet with a low, moderate, high, or severe rating (Figure 1), but there’s one more step. To complete the assessment, the crewmember must also select/score the appropriate sortie/FDP and save the worksheet (Figure 2). After completing these steps, the fatigue information from “Sleep Quality” and “Sleep in Last 12 hrs” could influence the graph if the sleep period is within 12 hours of crew show. Also, the scorer can input comments to explain why sleep was poor quality or the personal risk factors are high for a particular FDP—more context is helpful as we work to improve mission effectiveness for our MAF crews.
Note the risk factor severity auto-populated from the Fatigue/Health/Stress scorecard. But there’s 1 more step.

**First - Populate the Fatigue/Health/Stress scorecard as appropriate**

**Health and Stress Scoring:**
- Any factor HIGH overall score HIGH
- Total of all four factors 7 or more overall score SEVERE
- Total of all four factors 5-6 overall score MODERATE
- Total of all four factors 3-4 overall score LOW

**Fatigue Scoring:**
- Total of all factors 7 or more overall score SEVERE
- Any factor HIGH overall score HIGH
- Total of all factors 4-6 overall score MODERATE
- Total of all factors 1-3 overall score LOW

**Figure 1**

**Last - The enduser must now select the FDP where the risk severity applies by using the mouse and "click" on the FDP**

**Health and Stress Scoring:**
- Any factor HIGH overall score HIGH
- Total of all four factors 7 or more overall score SEVERE
- Total of all four factors 5-6 overall score MODERATE
- Total of all four factors 3-4 overall score LOW

**Fatigue Scoring:**
- Total of all factors 7 or more overall score SEVERE
- Any factor HIGH overall score HIGH
- Total of all factors 4-6 overall score MODERATE
- Total of all factors 1-3 overall score LOW

**Figure 2**
The examples in Figures 3 and 4 depict how this may happen. Figure 3 shows an auto-calculated sleep period within 12 hours of show time with more than six hours of “excellent” sleep scored or no fatigue input at all.

![Figure 3](image1)

However, Figure 4 shows an input of less than four hours of sleep with “poor” sleep quality with a potential drop in performance.

![Figure 4](image2)
If aircrew properly score the fatigue/health/stress portions of the AvORM worksheet, a better assessment of crew physiological state is possible.

If aircrew properly score the fatigue/health/stress portions of the AvORM worksheet, a better assessment of crew physiological state is possible. For additional training on the entire AvORM Web application, go to the AF portal under AMC/SEF and look for the tab AMC Aviation ORM.

AMC continues to work toward smarter fatigue management. They have received several fatigue-related ASAP reports. After a thorough review of the ASAPs by crews who willingly provided mission information, the ME graph showed a fatigue event based on C2 timing alone. These reports are being combined with other fatigue-related event information to educate mission planners and the execution cell of mission management options to help mitigate fatigue. So in short, keep the ASAPs coming. As a reminder, AvORM is not just about fatigue; it’s about looking at all the risk to a crew and mission for combined effects. Without aircrew providing more details, AMC won’t know where, when, and why the aggregate risk is elevated.

Finally, our current crew rest/duty period limits, when applied smartly, are safe and effective; however, fatigue management becomes more important when other external factors start impacting the best planned mission. Your local flight surgeon or aerospace physiologist is available to field your questions about fighting the battle against fatigue. Please continue to complete the AvORM worksheet (it is mandatory), and submit an ASAP when things get ugly—both will help your fellow Airmen. Fly safe!

Capt Katrina Morgan, left, and 1Lt Jordan Bronson, right, 817th Expeditionary AS Detachment 1 pilots, conduct system management during flight with the help of autopilot. Autopilot helps reduce pilot fatigue during deployed missions that may last up to 16 hours. Capt Morgan and 1Lt Bronson are deployed out of Joint Base Lewis-McChord, Wash.

USAF photo by SSgt Krystie Martinez
As the death of former South African president Nelson Mandela drew the world’s attention to the African continent, Mobility Airmen raced against the clock to ensure President Obama’s security, communications, and mission support was in place.

Within days, those would become part of an international effort to help end violence in the Central African Republic (CAR).

Minutes after the international press announced Mandela’s death on Dec. 5, planners at the 18th Air Force and the 618th Air and Space Operations Center (Tanker Airlift Control Center), Air Mobility Command’s operational warfighting arm, began working to support anticipated presidential travel to South Africa. Linking up with their counterparts at U.S. Transportation Command and Air Forces Africa, 18th Air Force planners immediately began the complex effort of orchestrating the movement.

And then things got complicated.

An initial deadline of Dec. 11 quickly shifted to Dec. 10, leaving the team with only about 60 hours to move thousands of tons of equipment halfway across the globe in advance of the President’s arrival. Capitalizing on lessons learned from earlier presidential trips to Africa, the planners crafted a sophisticated network of Airmen and infrastructure at overseas locations in Puerto Rico, the Indian Ocean, Africa, and Europe to support the 24 airlift aircraft, which included 23 C-17 Globemasters and a C-5 Galaxy. In addition, the lack of fuel availability over vast distances and in Africa mandated the support of four KC-135s and 12 KC-10s.

Around the same time, Secretary of Defense Chuck Hagel announced the United States would support French and African peacekeeping efforts in the Central African Republic, specifically airlift of Burundi troops to the CAR.

“Our ability to accomplish the short-notice planning to support the Burundian deployment without losing focus on the execution and branch planning for the President’s travel demonstrates the dedication and agility of the 18th Air Force/618th team,” said Col. Kurt Meidel, the 18th Air Force’s Director of Operations.

Photo above: Burundi soldiers prepare to load onto a C-17 Globemaster at Bujumbura Airport, Burundi. In coordination with the French military and African Union, the U.S. military provided airlift support to transport Burundi soldiers, food, and supplies in the Central African Republic.

USAF photo by SSgt Erik Cardenas
“As Mobility Airmen, our charge is to be ready to respond anywhere on the globe where we’re needed.”

Within days of the announcement, as the presidential support operation began to switch gears to the redeployment of personnel and equipment, 18th Air Force’s Air Operations Center, the 618th Air and Space Operations Center (Tanker Airlift Control Center), had already coordinated two C-17 aircraft to transport more than 800 Burundi peacekeepers and equipment from Uganda to the CAR, where they were greeted by cheering crowds.

“The scale of the rapid support of a presidential movement into an austere location with only 60 hours to execution was impressive,” said Maj Gen Barbara Faulkenberry, 18th Air Force vice commander. “It was a testament to the phenomenal planning and coordination that is simply a fact of how we do business.”

Simultaneous execution and quick pivoting is nothing new for Mobility Airmen. In 2011, Air Mobility Command forces successfully responded to the near-simultaneous demands of humanitarian relief to Japan while supporting combat operations in Libya. In the case of the Africa missions, the nimbleness of the enterprise built not only on support of past presidential missions, but also a foundation of continued engagement on the continent.

Since 2011, the U.S. Air Force Expeditionary Center’s 818th Mobility Support Advisory Squadron (MSAS) has conducted engagements and training with African partner nations where air mobility operational support is either non-existent or insufficient. The squadron is a tailorable, expeditionary organization whose members have expertise in command and control, air operations, aerial port operations, and aircraft maintenance. Additionally, since December 2012, the 818 MSAS has conducted three engagements, training its counterpart in the Burundi military in cargo preparation and load planning.

“It was great working alongside the Burundi Air Force,” said Capt Louis Crooms, 818 MSAS senior air advisor, who noted that the Burundis his team trained had since assisted in an African Union mission to Somalia. “It was great to know they were able to put the skills we taught to use. In fact, I recently received an email from one of my counterparts saying that all people we trained with were using those same skills for the Central African Republic mission. He thanked us and asked when we were going back. To me, that’s the mark of success for our efforts ... Africans helping Africans.”

Although operations in Africa continue, AMC planners continue to look “around the corner” in anticipation of new requirements, ensuring the flexibility and readiness that is the hallmark of Mobility Airmen.

“As Mobility Airmen, our charge is to be ready to respond anywhere on the globe where we’re needed,” said Faulkenberry. “Thanks to the expertise of our planners and our continuing efforts to build the capacity of our partner nations, we were able to very quickly answer America’s call and support the international partnership seeking to stop the sectarian violence and restore security in the Central African Republic.”

Photo above: Burundi soldiers wait to take off in a C-17 Globemaster at Bujumbura Airport, Burundi.

USAF photo by SSgt Erik Cardenas
The Bird/Wildlife Aircraft Strike Hazard (BASH) program at Fairchild is working daily to ensure the safety of Fairchild’s KC-135 Stratotankers and their air crews. The BASH program is set in place to prevent any birds from striking aircraft and any wildlife on the flightline from interfering with flight operations.

Aircraft strikes and wildlife interference jeopardize the lives of Airmen and the Fairchild mission. “This program is necessary for eliminating or reducing environmental conditions that attract birds and wildlife to the airfield,” said Capt Owen Walker, 92d Air Refueling Wing Chief of flight safety. “It greatly reduces the chances of an aircraft strike.”

The safety office uses numerous techniques to reduce the threat of bird strikes.

One of the techniques is placing multiple air cannons throughout the airfield, which are set on timers to scare birds off the field.

Another approach to handling this issue is using a falconer. Fairchild’s falconer is Dave Knutson. Knutson
started at Fairchild in 1996 and has five falcons and two English pointers to help remove wildlife from the flightline.

In the winter, Knutson uses peregrine falcons and gyrfalcons because they are able to endure the cold weather and wind. However, for the summer months, African birds are used to counter the heat.

After the first year the BASH program started using falcons, the repair costs from bird strike damage to aircraft was zero dollars, down from $265,000 the previous year. And non-damaging bird strikes went down 83 percent from the previous year.

Releasing falcons in the area increases the number of natural predators. Other birds can sense this, and it will cause them to leave or hide in the grass.

“It’s a show of force ... other birds see the falcon hunting and become frightened,” said Knutson. “If they don’t get out of the way, deprivation will occur.”

Although these falcons are able to dive at more than 200 miles per hour, not many kills occur, Knutson said. Once the birds either flee or hide on the ground, he takes the dogs and drives through, scaring them off the flightline.

“We don’t measure our success on how many birds are killed, what matters is how fast the airfield is cleared,” said Knutson.

Every action to reduce the presence of wildlife on the flightline is taken. This goes as far as cutting the grass to a certain height.

Walker said the grass is cut no lower than 7 inches and won’t get any taller than 14 inches. It’s not too short for birds to land in and not too tall so they don’t have the option to hide or start a nest in it.

When it comes to dealing with the natural ponds on the airfield, the safety office has started a new approach, using hundreds of thousands of black plastic balls known as “bird balls.” The bird balls are placed in the ponds, covering the entire surface. This prevents birds from landing, and the dark color is also less appealing to them.

“The bird balls are more effective than the nets we are currently using,” said MSgt Joel Jones, 92d ARW flight safety superintendent. “It’s possible for the wildlife to get under the nets, defeating their purpose.”

So far, 500,000 bird balls have been placed in the pond next to the aircraft simulator the fire department uses for training. This gives them access to the pond for their purposes while not attracting any wildlife to the flightline.

When a bird strike occurs, it can be deadly, cause serious damage or ground the whole mission.

“Bird strikes are taken very seriously, and they greatly impact our mission, costing us valuable time and money,” said Jones.

Since the implementation of the BASH program, Fairchild crews have been safer, and it has safeguarded the Air Force from bird related maintenance repairs, allowing the mission of Team Fairchild to continue.
During routine training at Peterson AFB, a C-21 piloted by Lt Col Sean McFarland and Lt Christopher Brimer became extremely difficult to control shortly before a flight control warning light illuminated. As the crew performed an unplanned go-around, secondary flight controls failed. Maintaining control throughout the unplanned recovery action, Lt Brimer was able to avoid a wingtip strike and helped safely establish the aircraft in holding. Utilizing exceptional CRM, the crew reviewed and accomplished all emergency checklists before approach for landing.

Anticipating hydraulic system failure, the crew planned for another go-around if needed, and during normal flap extension—when the hydraulic system pressure fell to zero—they opted for an early go-around. Again en route to holding, the crew maintained situational awareness and prioritized flying the aircraft to avoid multiple conflicting aircraft.

Back in holding, five additional emergency checklists were completed. Because of proper checklist usage and advanced systems knowledge, the crew extended landing gear with use of the emergency air bottle system and selected 20 degrees of flaps, which may have prevented a subsequent go-around in the event of engine failure.

With the concern of emergency braking system failure, the crew requested an opposite direction approach to the runway so that the significant uphill slope would aid in slowing the aircraft upon landing. Once again, outstanding CRM ensured the crew was prepared to apply emergency braking. The aircraft commander (AC) performed the landing, and the co-pilot took control of the engines and thrust reversers. The AC then took control of the emergency braking handle, but normal brakes worked and emergency brakes were not required. Exceptional airmanship, exemplary CRM, proper task prioritization, and systems knowledge enabled the crew to avoid mishap, safeguard two lives, and safely recover a $3.1 million aircraft.
Living an active lifestyle can have many advantages. The health benefits that come along with staying physically active can make a big difference in our lives. There are certain risk factors, however, that accompany leading an active lifestyle: sports injuries. These injuries can result in pain, discomfort, loss of the enjoyment of life, and even more serious injuries.

While almost any part of your body can be injured to some degree while playing sports, the term “sports injury” is typically used for those that involve the musculoskeletal system—your bones, muscles, ligaments, and tissues.

Some of the most common sports injuries are sprains, strains, and knee injuries. In fact, the U.S. Department of Health and Human Services reports that more than 5.5 million people seek treatment for knee problems each year. Mild knee injuries such as runner’s knee and tendinitis are less severe, although they can still cause quite a bit of discomfort and can limit one from participating in activities. More severe knee injuries like bone bruises, meniscus tears, or damage to the four major supporting ligaments in the knee can be very painful and may require surgery and/or extensive physical therapy.

**When to Seek Medical Treatment**

No matter the severity, sports injuries should never be taken lightly. What may seem like a minor injury on the surface could have significant long-term effects if not treated properly. So what should you do when you’ve been injured? Actually, the first thing you should **not** do is attempt to play through the injury. If you begin feeling some pain or discomfort during a certain movement or activity, STOP! Continuing on with this movement or activity will only make your injury worse.

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*Antwan Piper, 436th Force Support Squadron player-coach, goes up for a layup against the 436th Maintenance Squadron during the 2013 intramural basketball championship at the base fitness center at Dover AFB, Del.*

USAF photo by TSgt Chuck Walker
Severe sports injuries, as with any severe injury, should be treated immediately.

Instead, seek professional medical treatment if you experience any of the following:

- Severe pain, swelling, or numbness
- Inability to tolerate any weight on the injured area
- Dull ache of a previous injury accompanied by increased swelling or joint instability

**Who Can Treat Your Injury?**

Many sports injuries can be treated by your primary health care provider, but each injury should be evaluated to ensure you’re seeking the best possible care for your particular injury. Depending on the severity and type of injury, you may be referred to either an orthopedic surgeon or a physical therapist/physiotherapist. Orthopedic surgeons are doctors that specialize in the diagnosis and treatment of injuries to bones, joints, ligaments, tendons, muscles, and nerves. Physical therapists and physiotherapists can develop a rehabilitation program for long-term treatment of your injury to prevent further injuries. Severe sports injuries, as with any severe injury, should be treated immediately.

**When to Treat at Home**

If you are not experiencing any of the symptoms listed previously, it may be safe to treat your injury at home. The National Institutes of Health recommends using the RICE method, a four-step treatment process that should be administered immediately after the injury occurs and should continue for at least 48 hours.

1. **Rest.** Take a break from exercise or other activities that may further aggravate your injury.
2. **Ice.** Treat the injured area with ice packs for 20 minutes at a time, four to eight times a day. Be sure not to apply the ice for longer than 20 minutes, as prolonged exposure could result in cold injury and/or frostbite.
3. **Compression.** Elastic wraps, special boots, air casts, splints and other compression products may help reduce swelling of the injured area. Ask your health care provider for advice on the best treatment for your injury.
4. **Elevation.** Keep the injured ankle, knee, elbow, or wrist elevated as much as possible to help reduce swelling, ideally above the level of your heart.

If your symptoms worsen or fail to improve after attempting to self-treat, you should check with a qualified medical professional.

**The Bottom Line**

Sports injuries can vary greatly and should be evaluated on a case-by-case basis. These injuries should not be taken too lightly, as they could potentially lead to more serious injuries or have other long-term effects. If you are experiencing discomfort as a result of your activities, do not downplay or self-diagnose the injury, and don’t think it will go away by itself with time. Listen to what your body is telling you. A proactive approach will ensure that you are taking the necessary steps to treat your injury and will help you get back to the activities you enjoy most.

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**PREVENTING SPORTS INJURIES**

Are you prone to sports injuries? Following these helpful tips can help you avoid them:

- Stretch and warm up before exercising or playing any sport.
- Cool down after exercising or playing sports.
- Wear shoes that best suit your activity.
- Use proper form or technique when exercising or playing sports.
- Don’t twist your knees when stretching—keep your feet as flat as possible.
- Learn to land “soft” when jumping—bend your knees when landing to absorb shock.
- Run or exercise on flat, soft surfaces—not on asphalt or concrete.
- Most important of all, know your limits—don’t try to do too much!
Congratulations to TSgt Cory B. Little, 573d Global Support Squadron, 621st Contingency Response Wing, Travis AFB, on his recent receipt of the Air Force Weapons Safety Well Done Award for outstanding achievements in Weapons Safety.

Sergeant Little was recognized for his excellence in handling the safety, security, and maintenance of 975 weapons and 627,000 rounds of ammunition valued at approximately $1.9 million. His thorough oversight ensured 662 Contingency Response Wing personnel were safely trained, armed, and prepared to support the Wing’s capability to respond rapidly to global contingencies, humanitarian aid, and disaster relief operations.

An innovative thinker, Sergeant Little initiated multiple training, standardization, and certification programs, promoting a culture of safety that directly contributed to the Wing’s impressive zero Class A and B mishap record and the Squadron’s receipt of the Contingency Response Unit of the Year Award.

It isn’t possible to list all of Sergeant Little’s accomplishments, but a few specific milestones include initiation of a Wing Explosive Detector Program, spearheading ammunition deployment Standard Operating Procedures, and launching a Squadron Armory Training Program. Additionally, several of his ideas for managing inventory saved the Air Force a considerable amount of money.

These and his many other accomplishments, along with Sgt Little’s overall commitment to excellence, exemplify the highest standards of weapon safety. Thank you for your dedication, Sgt Little, and congratulations on receiving the Well Done Award.
Of all the changes of the seasons, it sure seems like everyone is happiest to see the arrival of spring. I don’t know of that many people who really look forward to the arrival of cold temperatures and piles of snow that winter usually brings, but I know there are some who do! In the spring, flowers begin to bloom, the grass begins to turn green again, and we can put our winter jackets away. Spring, as everyone knows, brings warmer temperatures and leads right into summer, with its longer days, plentiful sunshine, and slower pace. We do relax a little in the spring, but one way we can’t let down our guards is with relation to flying and the weather. Getting from the snow and ice of winter to the clear, sunny days of summer means a sometimes-bumpy trip through the unpredictable spring weather patterns.

Perhaps no season is quite as erratic as spring, with its increased thunderstorm activity, fog, high winds, and tornado potential. Weather changes more day to day during the spring than in any other season. Air Force Handbook 11-203, Vol 1, *Weather for Aircrews*, is a valuable resource for all things weather related and should always be your first stop for weather questions. Here in southwest Ohio, typical springtime weather usually involves some push-and-pull between cold air masses from the north and warm, moist air from the south in the Gulf region. This can cause severe, sometimes violent, storms with high, unpredictable winds, hail, or even tornadoes. If that weren’t enough, even after temperatures begin to climb, it is quite possible that they will drop again. It’s not at all uncommon to see icing into March and even April.

Our purposes here are not really to go in-depth into thunderstorm producing weather conditions but simply to get you thinking about shifting gears with your flight planning and paying attention to seasonal changes. Thunderstorms and tornadoes aren’t the only weather conditions that might trip you up; those high winds that behave unpredictably can also turn into wind shear and microbursts very quickly, and those are guaranteed to ruin
The best possible thing you can do when a thunderstorm is in your flight path is avoid it to the greatest possible extent.

When doing flight planning, of course you start with Plan A, but you need to be sure that you don’t take off without Plan B, C, and D in your pocket, just in case.

To touch briefly on a few of the weather conditions you’re most likely to see, no matter where you are leaving or where you are headed, let’s look at thunderstorms and high winds for a few minutes. It says right in the introduction to the thunderstorm chapter in *AFH 11-203, Weather for Aircrews*, that thunderstorms contain the most severe weather hazards to flight. It also goes on to list these hazards: strong winds, severe icing and turbulence, frequent lightning, heavy rain, and hazardous wind shear. And oh yeah, don’t forget large hail, microbursts, and even tornadoes. Each of those is worthy of its own chapter and its own article, but just be aware that in flying near a thunderstorm, those are some of the things you can encounter. The best possible thing you can do when a thunderstorm is in your flight path is avoid it to the greatest possible extent. When you have around 44,000 thunderstorms happening every day somewhere in the world, avoidance is sometimes just not possible. The next best thing is to fly far away from it and depart the area as quickly as you can.

High, unpredictable winds can quickly and easily turn a moderately bumpy flight path into far more dangerous conditions like wind shear and microbursts. Wind shear, simply put, is any rapid change in wind direction or speed. It is especially dangerous during takeoff and landing when the aircraft is operating close to stall speeds, when any loss of lift could be catastrophic. Wind shear has caused aircraft crashes and fatalities, and being ready to counteract it is critical. A microburst, in a nutshell, is a short-lived and powerful downdraft associated with convective activity. Microbursts and wind shears go hand in hand; microbursts often cause strong wind shears, and meteorological observations show that about five percent of all thunderstorms produce microburst activity.

When the strong winds of a thunderstorm become violent rotating winds in a column, then you have a tornado. This can happen quickly; this is one reason it’s important to avoid the vicinity of the storms in the first place. We’ve all seen the damage tornadoes can do; they are devastating. Winds within the funnel-shaped circulation can reach 300 mph, and the tornado’s forward speed averages about 30–40 knots, which equates to about 35–45 mph. That’s a fast-moving storm and definitely one to steer clear of!

As if the winds weren’t enough danger to accompany thunderstorms, they can also bring hail and lightning. Hail is a solid ball of frozen ice, although hailstones are not always spherical; they are often irregular in shape and size. A general rule of thumb about storms and hail: the larger the storm, the more likely it is to produce hail. It has been known to be present as high up as 45,000 feet, in clear air, and it can be carried as much as 20 miles downwind from the thunderstorm’s core. Hailstones can get large and do a lot of damage to an airplane in a very short time.

Lightning can strike at any level in a thunderstorm. Most lightning discharges never hit the ground but occur either within a cloud or between clouds. Lightning can also occur in the clear air above or below a storm, as well as all around it. Depending on the severity of the strike, structural aircraft damage is generally minor, but severe damage can occur. Beyond the structural damage, lightning can also affect the way the aircraft’s electrical systems work, along with avionics, instruments, and radar. It can cause bomb doors to open or activate wing folding motors, and it can call your electronic flight control navigational systems’ accuracy into question. After a lightning strike, the best thing to do is have your aircraft’s systems checked out, and don’t trust the instruments’ readings until they can be verified.

Like most safety warnings, much of this is “worst case scenario” territory, and you may never encounter anything as severe as these situations. But you are just about guaranteed to encounter a thunderstorm at some point in your flying career, and you will need to be prepared to deal with it. Read *AFH 11-203*, plan ahead, talk to the weather shop for forecasts along your flight path, and give PIREPS for other crews transiting the area. Don’t be surprised by bad weather. Be ready for it!
SSgt Ryan Rodgers serves as the Aerial Port Support Section Noncommissioned Officer in Charge, 728th Air Mobility Squadron, Incirlik Air Base, Turkey. He identified numerous hazardous conditions in the work environment during his weekly safety inspections. In response, he co-authored four Job Safety Analyses to train and educate personnel on how to recognize and abate potential hazards and mishaps. In an effort to reverse the trend of vehicle mishaps throughout the enterprise, he organized a flight safety day to refresh all personnel on risk management and material handling equipment operations. This renewed focus cultivated a safety mindset in the 101 personnel under his scope of responsibility, which is evidenced by the fact that even with an influx of newly assigned personnel, there have been no safety incidents within the Aerial Port. Finally, as a hazardous material and explosives handling instructor, SSgt Rodgers oversaw the training and certification of all Aerial Port personnel on the safe disposition of dangerous goods. His diligence paid off with the safe and efficient airlift of 10 tons of explosives on three aircraft.
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**FLYING HOUR MILESTONES**

A C-17 Globemaster III from the 437th AW, Joint Base Charleston, S.C., flies over Midwest skies.

*USAF photo by SSgt JeSS LOCKOMI*

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<th>14 AS, Joint Base Charleston, SC</th>
<th>Capt Joshua A. Pete</th>
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**Submitting Flying Hour Milestones**

To submit flying hour milestones, send your request to: mobilityforum@us.af.mil
HQ AMC/SEE, 618.229.0927 (DSN 779)

*Please submit as shown in the listings above (first name, last name, sorted alphabetically within rank).*
There I Was … Call Me Flipper

As I watched my young son doing flips on the trampoline, he taunted me into trying it myself. At age 45, this was well within my ability, or at least in my mind it was. I practiced over and over again, in secrecy of course, until I perfected the flip, which took about three weeks. (Laugh—however, it is more difficult than you think.) The next time my son and his friends gathered, they taunted me. With my newly perfected skill, I climbed on the trampoline and left them speechless. My day had finally come. The aftermath of this new activity will surprise you.

As summer approached and I opened the pool, I decided to take my new trick, turning flips, from the trampoline to the diving board. As some of you may know, a flip on the trampoline is straight up and straight down. Flip-turning techniques applied on the diving board, straight up and straight down, can be painful. Well, the old dog learned a new trick that resulted in a fractured collarbone and a new life lesson as well. As one may imagine, the flip, although executed the same on both the trampoline and the diving board, produced a different result.

Lesson learned: what works in one environment does not necessarily transfer without modifications. At work or at play, apply appropriate risk management.

Communication … Still the Key

Taxi mishaps can happen anywhere planes taxi, here in the United States or on the opposite side of the globe. Recently, AMC aircraft experienced two taxi mishaps on two different aircraft types that caused substantial damage to four aircraft and inhibited mission execution and velocity.

The first mishap occurred during a training exercise. While taxiing to park, one aircraft’s tail struck the tail of another aircraft parked directly across the apron. This preventable mishap occurred due to lack of communication, lack of training, and lack of awareness. The parties involved were the local transit alert, deployed maintenance, airfield management, and aircrew. Faulty assumptions concerning the specified parking locations led to the two aircraft striking tails.

The second mishap occurred after an aircraft blocked out of parking and turned left onto the taxiway. At 175 feet down the taxiway, the left wingtip struck and tore the radome off another aircraft parked on the ramp. As with the previous mishap, lack of communication between parties existed, and aircrew did not properly assess wingtip clearance.

If you’re supervising a parking plan for a short notice TDY, ask your local Airfield Manager if your plan is well devised. Then, in execution, ensure all players are informed as to specifics on the parking plan and all its intricacies. Make no assumptions. Are nose wheel stop markings clear? Do they apply for all aircraft types? Do aircrews know the plan? Does tower ground control know the plan? The time to ensure the plan and players are informed is at groundspeed zero. Remember, “No Faster Than Safe!”
SSgt Craig Bratcher, 6th Logistics Readiness Squadron NCO in charge of the fuels laboratory conducts an Ohms test for stray electricity prior to using “bottle method testing” at MacDill AFB, Fla. Bottle method testing is a way of testing fuel samples to get an indication of the solids that are within. Bratcher is one of two Airmen currently at MacDill that are in charge of testing the over seven million gallons of jet petroleum 8 (JP-8) that the base uses annually.

USAF PHOTO by SSgt Brandon Shapiro