

Aviation Human Factors Industry News

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From the sands of Kitty Hawk, the tradition lives on.

Hello all,

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In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

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Small jet runs into hangar at Chino Airport

CHINO - A small passenger jet struck a hangar Thursday evening at Chino Airport, leading to concerns of a fuel leak and evacuations of nearby hangars, according to federal aviation officials.

The plane was [on chocks for an engine run-up test](#) when the Bombardier Challenger came off the chocks, traveled about 100 yards and into



Encore Jet Center in the 8300 block of Kimball Avenue at the airport, said Ian Gregor, a spokesman for the Federal Aviation Administration. No one was injured.

[The mechanics were checking the engine](#), and the plane's tires were on chocks. FAA officials weren't sure why the jet came off the chocks and went into the hangar.

The incident took place after hours, said Chino valley Fire District authorities, so there weren't many employees inside the hangar at the time of the crash. Those who were inside were able to get out of the business quickly. No one inside was injured.

A witness said the sound of the plane hitting the hangar was like a bomb going off. The crash was reported shortly after 6 p.m.

First responders shut off electricity because of concerns about a fuel leak, however fire officials later said there was no fuel leak.

Four adjacent hangars and businesses within those hangars were evacuated. Dozens of passers-by stopped to gawk at the emergency vehicles and news vans lined up on a road near the airport.

Fire departments from Ontario and San Bernardino County assisted Chino Valley firefighters, and at least four ambulances went to the scene. By 8 p.m., most of the paramedics and fire trucks had left.

Aviation MX HUMAN FACTORS

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FEATURED ARTICLES

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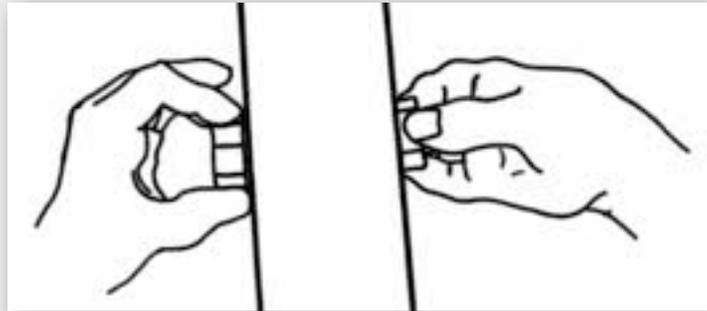
*Written by maintenance human factors professionals dedicated to identifying and optimizing the factors that affect human performance in maintenance and inspection.
Past newsletters @ MXFatigue.com*

<https://hfskyway.faa.gov/HFSkyway/FatigueNewsletter.aspx>

NTSB finds improper maintenance as cause of 2010 fatal crash near Tucson

The United States National Transportation Safety Board has issued a probable cause report for the July 28, 2010 crash of an Air Methods Eurocopter AS350 B3 that killed three people in Tucson, Ariz. The report reads as follows:

The single-engine helicopter was operating near its maximum gross weight and was on a repositioning flight back to its home base. About 6 minutes into the flight, cruising at 800 feet above ground level (agl), the helicopter experienced a complete loss of engine power.



Witnesses observed the helicopter, which had been flying steadily in a southeast direction, suddenly descend rapidly into a densely populated residential area. Descent rates calculated from the last 10 seconds of radar data were consistent with an autorotation. The witnesses reported that, as the helicopter neared the ground, its descent became increasingly vertical. Examination of the accident site revealed that the helicopter was in a level attitude with little forward speed when it impacted a 5-foot-high concrete wall, which penetrated the fuselage and ruptured the fuel tank. A post impact fire consumed the cabin and main fuselage of the helicopter.

An open roadway intersection was located about 300 feet beyond the accident site, in line with the helicopter's flight path. It is likely that the pilot was attempting to make an autorotative approach to the open area; however, he was unable to reach it because he had to maneuver the helicopter over a row of 40-foot-tall power lines that crossed the helicopter's flight path near the accident site. This maneuver depleted the rotor rpm, which, as reported by the witnesses, caused the helicopter's descent to become near vertical before it impacted the concrete wall, which was across the street from the power lines.

The pilot had no training flights during the 317 days since his most recent 14 Code of Federal Regulations Part 135 check flight. The lack of recent autorotation training/practice, although not required, [may have negatively impacted the pilot's ability to maintain proficiency in engine failure emergency procedures and autorotations.](#)

However, because the engine failed suddenly at low altitude over a congested area, more recent training may not have changed the outcome.

External examination of the engine at the accident site revealed that the fuel inlet union that connected to the fuel injection manifold and provided fuel from the hydromechanical unit to the combustion section **had become detached** from the boss on the compressor case. **The two attachment bolts and associated nuts were not present on the union flange nor were they located within the helicopter wreckage debris.** Separation of the fuel inlet union from the fuel injection manifold interrupted the supply of fuel to the engine and resulted in a loss of engine power. Post accident engine runs performed with an exemplar engine showed that, with loose attachment bolts and nuts, the union initially remained installed and fuel would not immediately leak. As the engine continued to operate, the loose nuts would progressively unscrew themselves from the bolts. With the bolts removed, the union would ultimately eject from the boss, and the engine would lose power due to fuel starvation.

The helicopter's engine had undergone maintenance over several days preceding the accident. The maintenance was related to fuel coking of the fuel injection manifold. The operator's mechanics removed the engine from the helicopter and separated the modules. Another engine with the identical problem was also undergoing the same maintenance procedure at the time. A repair station technician was contracted to complete the maintenance on both engines. The operator's mechanics and the repair station technician disassembled the accident engine and set it aside. **They then performed the required maintenance on the other engine,** before returning to complete the work on the accident engine. While working on the accident engine, the repair station technician disassembled module 3, replaced the fuel injection manifold, and then reassembled the engine. This work required that the fuel inlet union be removed and reinstalled. It is likely that the technician **did not tighten the bolts and nuts securing the union with a torque wrench and only finger tightened them.** The engine was reinstalled into the helicopter by the operator's maintenance personnel. **The repair station technician was serving as both mechanic and inspector, and he inspected his own work.** There **were no procedures established** by the operator or the repair station to ensure that the work performed by the technician was independently inspected. Further, although 14 Code of Federal Regulations 135.429, applicable to Part 135 operators using aircraft with 10 or more passenger seats, states, in part, "No person may perform a required inspection if that person performed the item of work required to be inspected," there is no equivalent requirement for aircraft, such as the accident helicopter, with 9 or fewer passenger seats. An independent inspection of the work performed by the technician **may have detected** the improperly installed fuel inlet union.

In 2008, the Federal Aviation Administration (FAA) principal maintenance inspector (PMI) for the repair station removed the repair station's authorization to perform work at locations other than its primary fixed location. **However, the Repair Station Manual was not updated to reflect this change, and the PMI did not follow up on the change, nor did he log the change in the FAA's tracking system.** The PMI was unaware that, in the year before the accident, the repair station had performed work for the operator at locations other than the repair station's primary fixed location at least 19 times. The FAA's **inadequate oversight of the repair station** allowed the repair station to routinely perform maintenance at locations other than its primary fixed location even though this practice was not authorized.

New Dreamliner Problem Traced To Tape Left On Battery Enclosure

JAL Says No Safety Risk To Passengers Or The Aircraft

A piece of tape covering two small holes in a Dreamliner battery encasement **caused an anomalous reading** aboard a JAL Dreamliner Sunday, but the airline said that the incident posed no safety risk to any passengers or the airplane. A JAL spokesman said that while Boeing workers were making modifications to the battery system on one of the carrier's 787s, two small holes "about the size of the tip of a Sharpie pen" remained covered with tape. Those holes are part of the ventilation system that allows air flow inside the battery casing and is designed to help prevent overheating. **"Because the holes were covered,** JAL engineers detected that the air pressure level inside and outside the stainless steel container housing the battery was different," the spokesman said, according to a Wall Street Journal report relayed by USA Today.



The WSJ reports that the incident would normally have been considered minor, but with battery issues grounding the entire fleet of Dreamliners for four months this year carriers are particularly sensitive to them right now. The Japan Times reports that the airline temporarily grounded the airplane until the oversight was discovered.

FAA Targets Boeing 737 Engine-Oil Leaks

U.S. aviation regulators last Friday unveiled a proposed safety directive targeting [maintenance errors](#) that over the years have caused dangerous engine-oil leaks on [more than three dozen](#) Boeing 737 aircraft.

The Federal Aviation Administration said it acted after receiving reports that 34 of the 737s—the world's most popular jetliner model—suffered "total engine oil loss" in one engine as a result of mechanics [failing to replace a cap after routine ground checks](#). According to the FAA, four other 737s experienced similar engines leaks with both of their engines.



Such leaks typically lead to engines being shut down by pilots to keep them from coming apart and to prevent fires. The incidents also sometimes led to emergency landings, though none resulted in accidents.

The leaks happened between 1986 and 2011, with the last incident involving loss of [oil in both engines](#) occurring in May 2011. The FAA's proposed solution is to mandate some of the same procedural safeguards and redundant checks mechanics have been required to use for many years when servicing engines on larger twin-engine jets flying long over-water routes.

But with some 7,000 of the affected planes operating world-wide—only a fraction of them equipped with modified seals to reduce the impact of such maintenance slip-ups—the FAA is moving [to mandate heightened airline oversight of mechanics](#). Under the proposal, a second mechanic will be required to verify that the cap was replaced correctly.

Posted on the Federal Register website, the FAA's proposal covers 737 engines manufactured since the 1980s by CFM International, a joint venture between General Electric Co. And France's Safran.

The FAA's document indicates about 2,000 of the engines are installed on planes operated by U.S. airlines.

A GE spokesman said company officials have recognized the problem for at least two years, and voluntarily issued service bulletins urging 737 operators to heighten supervision over maintenance and install improved seals intended to prevent massive leaks even if caps are left off or end up secured improperly.

"With a population of engines that large," there are numerous opportunities for [continuing mistakes](#) by mechanics, according to GE spokesman Rick Kennedy.

On average, the caps are removed twice a year for routine engine inspections, Mr. Kennedy said.

In May 2011, the same month safety experts found out about the last dual-engine leak problem, CFM opted to take voluntary action and urged airline customers to be more vigilant. The engine maker also has been urging the FAA to make the company's service bulletin mandatory. An FAA spokeswoman declined to comment.

The agency's document said the [proposed sign-off by a second mechanic](#) "exceeds normal maintenance" requirements but "is necessary due to the design and location" of the cap.

The agency, which isn't looking to mandate installation of new seals, is setting aside two months for public comment.

Last October, European air-safety regulators mandated replacement of the cap with a new design and ordered mechanics to take special precautions when performing work that entails removal of the part.

That safety directive said taking off the cap must be considered a ["flight safety sensitive maintenance" task](#), and must be followed by "an independent inspection of the correct installation" by a second mechanic.

Did Agency botched its chance?

Among the more disturbing revelations coming out of the crash of Colgan Air's Continental Connection Flight 3407 has to be [the story told by Dan Morgan](#), the former vice president of safety and compliance for the regional airline. As reported by News Washington bureau chief Jerry Zremski, Morgan outlined in detail [the missteps and missed opportunities by both Colgan Air and the Federal Aviation Administration](#).

The agency had ample evidence of [safety shortcomings](#) at the airline, but failed to follow through on a number of threats to crack down on Colgan.



Those threats came after Colgan had [amply demonstrated a culture](#) in which finances far outweighed attention to training and safety.

Shocked lawmakers and family members of Flight 3407 victims say Morgan's account should prompt the FAA to enact the tough new pilot training and experience regulations that it has promised to finalize this year.

The report that the FAA warned the airline about safety issues a full six months before the crash is gut-wrenching.

According to Morgan, Nick Scarpinato, director of the FAA's flight standards office in Herndon, Va., sounded the alarm about safety problems at Colgan. The alarmed FAA wanted the airline to stop everything except daily operations and immediately bring everyone in from the regional airline to discuss the safety issues.

The FAA confirms that it had threatened disciplinary action against Colgan in August 2008. [But it did not follow through on those threats](#), opting instead to give the airline what amounted to a pass.

Flight 3407 crashed in Clarence Center on Feb. 12, 2009. Fifty people died. Now, to hear from someone at the top levels of the airline that the FAA had such serious misgivings about safety that it barked up a storm, but then backed down, is an outrage.

Morgan told a story of a regional airline that pinched every penny possible as it lived on the financial edge, an airline that worked its inexperienced, poorly paid pilots like rented mules, if not ferrying passengers then repositioning empty planes.

It's almost impossible to believe that the FAA's concerns about safety could have been treated so lightly. Yet not only was little done, the airline was rapidly expanding at the time, [putting further strains on its weak pilot training](#).

The only nod Colgan made to Scarpinato's safety concerns was to create a [PowerPoint presentation for executives](#) to use in meetings with employees all across the country. The response by the FAA's principal operations inspector for Colgan was a shockingly bland: "OK, thanks."

Could the FAA really believe, as a spokeswoman told The News, that the agency's August 2008 meeting with Colgan's executives had its intended effect?

Legislation passed in the aftermath of the crash has already led to tougher rules aimed [at curbing pilot fatigue](#). The pending rules will boost pilot training and experience requirements.

Beyond those new rules, Morgan's account is another example of why the FAA needs to closely monitor shoestring airlines in particular in order to discourage the temptation to put the bottom line before passenger safety.

Shifting Cargo Focus Of Afghanistan 747 Accident

Investigators Found Vehicles Moved Aft As The Plane Departed

Investigators looking into an accident involving a civilian Boeing 747 cargo plane operating in support of the U.S. military in April have turned their [focus on the possibility of shifting cargo](#) aboard the airplane as it departed Bagram Air Base in Afghanistan. The New York Times reports that accident investigators in Afghanistan say that the vehicles on board the airplane were thrown so violently back in the cargo hold that parts of the airplane separated from the aircraft and were left on the runway. The extreme aft CG made it impossible for the airplane to fly.



Information obtained from the 747s cockpit voice recorder did not give any evidence that the crew of the plane knew that the cargo had shifted, but a spokesman for Afghanistan's Ministry of Transportation and Civil Aviation said [that wiring at the rear of the aircraft showed damage consistent with shifting cargo](#).

Afghan officials say that it is still too early to know the exact cause of the accident. The only thing that was gleaned from the CVR was the voice of someone shouting "Wait! Wait!," according to spokesman Nangialai Qalatwal, who also indicated that cargo straps recovered from the accident scene appeared to have been cut, [but it was not known](#) if that damage occurred before the accident or was caused by the shifting load.

Qalatwal said the cargo had been checked twice before takeoff. There were nearly 80 tons of equipment on board the 747 being transported out of Afghanistan.

The NTSB is assisting with the investigation. The Boeing belonged to Michigan-based National Air Cargo.

New Information on Lion Air Crash: Scary on Two Levels

Why did a Lion Air Boeing 737-800 crash on final approach to Bali in April? With four minutes to landing the 101 passengers were strapped into their seats, the weather was clear and

paradise beckoned. The 48-year-old Indonesian captain had handed over control to the copilot, a 24-year-old Indian. The landing, with a flight path over water, should have been routine, and with a minute to go to touchdown the copilot disengaged the autopilot and prepared to fly the Boeing 737-800 manually to the runway.



But there was a sudden squall over the water. The copilot told the captain he had lost sight of the runway and handed back control to the captain. The airplane was by then less than a 100 feet from the water. The captain attempted to abort the landing and make a go-around.

It was too late. The 737 hit the water, parts of a coral reef and a sea wall. It finally came to rest about 60 feet from the shore and 900 feet from the runway. Water was surging into the cabin from a gash on the left side.

The upside of this story is that nobody died. Four passengers were seriously injured, scores of others had lesser injuries. And the evacuation of the plane was exemplary: Local police, armed forces, rescue personnel and bystanders waded into the shallow water and helped passengers to reach shore—some passengers swam. Everyone was on dry land within 35 minutes.

The downside is that this is a classic case of a crash that should never have happened. Bali international airport has every modern navigation aid, and the Boeing 737-800 was a virtually new airplane with advanced cockpit instruments. The appearance of a sudden squall near an airport is common everywhere in the tropics—it should present no hazard to a competent pilot.

This accident should be a red flag to regulators—and for travelers. Low-cost carriers are multiplying in southeast Asia. Lion Air already has nearly half of Indonesia's domestic market, which is growing at the astounding rate of 15 percent a year.

To satisfy demand, Lion Air recently ordered 230 more Boeing 737s and 234 Airbus A320s—an unprecedented windfall for both planemakers.

This growth is, however, clearly outstripping the supply of experienced pilots. The captain of flight 904 was a veteran, with 7,000 hours of experience on 737s; the copilot was a relative novice, with only 923 hours on 737s. With such a disparity the captain should not have left the landing to the copilot.

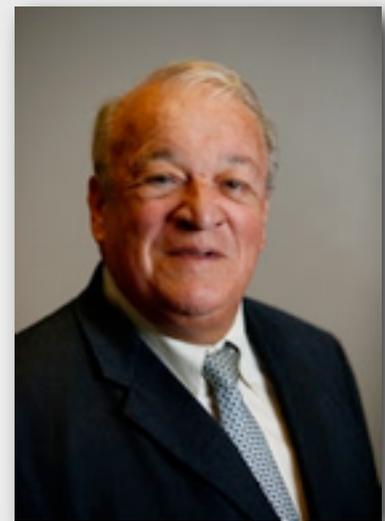
Most Indonesian carriers—including Lion Air—are banned from flying into both Europe and the U.S. by safety authorities. The country's regulatory regime is widely regarded as **not rigorous enough to meet international standards for either pilot proficiency or maintenance checks.**

It's simply not enough to have those shiny new airplanes painted with dazzling livery and staffed with a welcoming, gracious cabin crew. There is a new age of mass travel upon us, and it has to be **underpinned by a dependable culture of safety**—and that must include the regulators being given the power to limit the expansion of flights until they, and we, can be satisfied that pilot proficiency is equal to that of North America and Europe.

http://www.dephub.go.id/knkt/ntsc_home/ntsc.htm

Workaround at Your Own Risk by John Goglia

As much as many of us have warned of the risks of mechanic workarounds they continue. The risks are both to the safety of the aircraft being maintained and the airman's own license. **We all know how workarounds develop** - the paperwork a mechanic gets to work off of (maintenance manual procedures, job cards, service bulletins, etc.) is incorrect or the job is very time-consuming and the mechanic develops **shortcuts** which are supposed to accomplish the intent of the job, if not each literal step. These workarounds often appear to be sanctioned by the company, tacitly if not explicitly. This means that supervisors and foremen know that the time allotted for a certain job is not enough to accomplish the job – if each step is done as the paperwork requires.



This is even more true when a mechanic [is handed multiple jobs](#) to do where the time to complete each job by the book is clearly not sufficient. But while a mechanic's supervisor may know that a job is too time-consuming to be accomplished in the time allowed or that the paperwork is incorrect and a mechanic can't literally follow all the steps in a procedure or job card, that doesn't mean that the company will support the employee if the FAA questions the mechanic's work. In fact, it is most likely that the employer will adamantly state that deviations from procedures are not sanctioned at any time by the company.

This is the dilemma for mechanics. I have written about this a lot lately because of a case I worked on where two mechanics had their licenses revoked for allegedly falsifying records when they accomplished the intent of the job cards they were given, if not every literal step in the order in which it was listed. [Part of the problem in this case](#) was that the paperwork the mechanics were given was incorrect and part of the problem was that following every step as written would have taken hours. Although it was quite obvious to me that the mechanics did the job as they had always done it and as their supervisors knew they were doing it, when the FAA questioned their work, [the airline did not accept any responsibility](#) for what the mechanics did or how they did it.

In fact, an airline executive testified at the revocation hearing that the company does not condone any deviation from the job cards or maintenance procedures. These particular mechanics won their cases – the cases were dismissed as untimely so the substantive issues of how the job was performed was never decided by the NTSB - because they had a union willing to pay huge legal fees to defend them.

Moral of the Story: A mechanic deviates from written procedures [at his or her own risk, not to mention the potential risk to air safety](#). Even if you think you're helping the company by getting a job done more quickly by using a workaround, the company will not back you up when push comes to shove with the FAA.

Learn from Accidents, Expert Urges

An accident or injury is an unwelcome event at any workplace. But organizations that take strategic steps can use information about the incident to prevent similar events in the future.



Hernani Veloso Neto of the University of Porto, Portugal, published research on the subject of accident prevention strategies in the March issue of the [International Journal of Human Factors and Ergonomics](#). He identified three obstacles that stand in the way of treating workplace accidents as a source of what he calls "[useable knowledge](#)."

- The first challenge is fundamental structural barriers. These are related to organizational issues, such as whether news about accidents is disseminated beyond those immediately affected by the incident.
- The second obstacle is "inter-individual" barriers, for example, communications between line managers and staff.
- The third challenge are barriers caused by the behaviors and response of those directly involved in the accident.

The key to overcoming these challenges and unlocking the door to improved accident prevention, says Veloso Neto, is a knowledge system that focuses on internal and external case studies and encourages the Safety Reporting of accidents, causes, and outcomes across the entire organization.

"To learn from accident experiences, organizations must create mechanisms to foster knowledge from the onset and to elicit changes based on that information," Veloso Neto concludes. He says if such resources are not exploited, [barriers will remain in place and accidents will be repeated](#).

Re-Timer

Australian scientists launches a world first – a wearable green light device that [resets your body clock](#).

Invented from 25 years of research at Flinders University, the portable device helps high flyers beat jet lag, [keeps shift workers more alert](#) and gets teenagers out of bed in the morning by re-timing the body's internal clock. Known as Re-Timer, the device is worn like a pair of sunglasses and emits a soft green light onto the eyes.

Professor Leon Lack, Chief Inventor, said “The light from Re-Timer stimulates the part of the brain responsible for regulating the 24-hour body clock. Body clocks or circadian rhythms influence the timing of all our sleeping and waking patterns, alertness, performance levels and metabolism.

“Photoreceptors in our eyes detect sunlight, signal our brain to be awake and alert, and set our rhythms accordingly. These rhythms vary regularly over a 24-hour cycle. However, this process is often impaired by staying indoors, traveling to other time zones, [working irregular hours](#), or a lack of sunlight during winter months.

People who suffer from a mistimed body clock lie in bed for hours frustrated they cannot fall asleep. In the morning they wake fatigued [which limits their performance during the day](#). Prof Lack recommends wearing the glasses for three days for 50 minutes each day after awakening in the morning to advance the body clock i.e. fall asleep and wake up earlier. Or if falling asleep and waking up too early is the problem, wear them for 50 minutes before bed if you want to delay your body clock i.e. wake up later.



<http://re-timer.com/us/>

AMT enters into the Guinness World Record Book

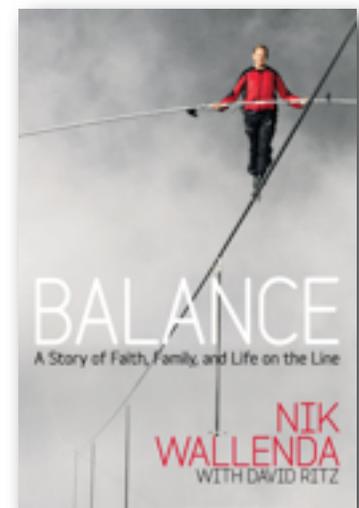


American Airlines received confirmation on June 3, from Guinness World Records that their own AMT Crew Chief Azriel (Al) “Blackie” Blackman (JFK) is being officially recognized as [the world record holder for “Longest Career as an Airline Mechanic.”](#) A major celebration took place on July 17, 2012 in honor of Al’s 70th anniversary with American Airlines. In all, 47 pieces of documentation, dating back to 1942, were submitted in support of American Airlines Maintenance & Engineering’s application on Al’s behalf.

Self Improvement Corner

‘Balance’ is the name of Falls wire-walker Nik Wallenda’s memoir, which is set to be published June 4.

As someone who performs death-defying stunts on a regular basis including a history-making tightrope walk hundreds of feet above Niagara Falls in 2012—one of the most highly-rated TV events of the decade—“King of the Wire” Nik Wallenda writes [of his struggle to maintain his balance](#), on and off the high wire.



In his memoir aptly titled *BALANCE: A STORY OF FAITH, FAMILY, AND LIFE ON THE LINE* (FaithWords/Hachette Book Group, June 4, 2013), Nik, a seventh descendant and member of the famous Great Wallendas, [describes his faith as the ultimate balancing force in his life](#)—equalizing the pull of ego, fame and fortune.

Beer's Tempting Taste

Just a tiny taste of beer can give regular beer drinkers a happy feeling and make them crave more of it, a new study has found. The finding, says *DiscoverMagazine.com*, suggests that beer contains chemicals other than alcohol that [trigger the brain's reward system](#), and explains why most beer drinkers rarely stop at once. Indiana University researchers asked nearly male volunteers to submit to a brain scan while they sipped tiny amounts of Gatorade and their favorite beer into their mouths,



They found that even minute quantities of beer—too small to produce an alcoholic “buzz”—caused the brain to release more of the [feel-good chemical dopamine](#) than Gatorade did. After tasting both drinks, the volunteers also tended to say they wanted to drink more beer rather than more Gatorade, even though many of them actually preferred Gatorade’s sweet taste. Volunteers who had siblings or parents with alcoholism got an even greater dopamine boost after tasting beer than those who didn’t. Since dopamine is such a powerful motivator, this might explain why it’s so hard for alcoholics to quit drinking: One sip, or even the smell, of beer is enough to trigger intense cravings.

The Martial Art of Stress Management

Most of us work and live out of control at least to some degree. Yet wherever we've worked worldwide, we've found everyone seeks to have more control.

Controlling stress is a martial art. No, it's not about fighting stress or overpowering your internal desires, nor about choking the living daylights out of others. In fact, just the opposite. The Japanese character for martial arts is bushi, literally "breaking the spear." In other words, [the](#)

[essence of martial arts is ending conflict, not vanquishing a foe.](#) And when it comes to stress, the foe and conflict [is typically internal](#), not outside you. While there may be plenty of external stressors -- people, traffic, frustrating or limiting conditions -- how you act and react determines your level of stress. In my experience, when people say they're "stressed," they really mean they're feeling ["out of control."](#) You know, being physically exhausted yet not being able to sleep because your mind is running?

Further, [stress can also be positive.](#) Think excitement, anticipation, being thrilled or in love, pumped up for an event, playing well in a competition, even making a presentation that moves many others toward a deal-changing direction. Point of fact, the legendary actor Laurence Olivier remarked that, with all his experience, he typically got flutters just before he went onstage. And in the rare moments when he didn't, [he "gave a flat performance."](#)

Most of us work and live out of control at least to some degree. Yet wherever we've worked worldwide, we've found everyone seeks to have more control. There are varying levels here. Superficial control means trying to tightly keep a lid on yourself (or others), repressing inclinations or thoughts. This is limited; despite reminders to "leave your work at work and your home at home," emotions, fears, and worst-case projections often take control when your attention drifts elsewhere.



Then, your lack of control leaks out to others. On the other end of the spectrum, a higher level of control entails being able to stay calm under even strongest pressures, such as just hearing your company is merging and not being sure whether you'll have a job, or being able to temporarily set aside -- not stuff down -- pressing financial fears so you can communicate cogently in a critical meeting.

I remember going through some challenges with another person and carrying my emotions into a martial arts class. My instructor, Hung Chow, noticed my overreacting during qi sao ("sticking hands") practice. He asked why, and I quickly overviewed what was going on. His response: "Why do you let someone else make you angry?" [That, in essence, is a martial master's view of stress and self-control.](#)

Based on both repetitive and varied training, martial adepts know that, though attacks can come at any time, they have the ability to respond appropriately and calmly, even when someone has furiously targeted them. And, most importantly, if they can control their own emotions and reactions, they'll enhance their self-protection ability. So the goal of a martial artist and of a stress manager [is to gain greater self-mastery.](#)

[Here are some martial arts principles that help to manage stress:](#)

- [Think "Stress Power."](#) After viewing an impressive demonstration, I asked a judo master how he was able to defend himself against skilled multiple attackers coming at him full speed. Didn't he feel fear? "Of course," he responded, "I use the fear to help me move faster." Don't allow yourself to get stuck and targeted like a deer in headlights. Move. Do something. Turn concerns and stressors towards action that betters the situation. As one wise person said, "Be a warrior, not a worrier." While it's unlikely there's a foolproof cure for a complex problem, at least do something, however small, that moves toward improvement, however slight. Martial masters and master leaders understand that seemingly small changes can quickly leverage into huge positive results.
- [Control yourself first.](#) The hallmark of beginning martial artists -- and weak managers -- is they attempt to make others be different. In contrast, experienced martial artists realize if they can't control themselves, how can they effectively influence others? The first and most important approach martial artists employ is to control their own bodies and reactions. The better they move themselves, the more effective they'll be at overcoming attacks.
- [Reduce internal conflicts.](#) A martial master understands that if she expends significant amounts of energy fighting herself, she'll have that much less power available to deal with external problems. Find ways to honestly acknowledge and befriend mixed feelings inherent in any change or person.

- (Someone told me the person she loves the most is also same one she most detests in certain situations.) It's natural and understandable to have mixed emotions; just don't let these eat you up and drain your reserves or tie you into self-constricted knots. So, for example, before communicating a change of approach to others, internally work out the strengths and weaknesses of the new process to your own satisfaction; realize there are no perfect solutions, come up with what works best, but do reduce your own internal resistance in advance.
- [Focus on redirecting rather than overpowering others.](#) Unmanaged fear often results in trying to squelch others who disagree. Don't try to block or ignore forces coming your way. Redirect them. Martial arts masters see the world as energy, which can't be created or destroyed, only moved. Think of pressures and conflicts as gifts to be redirected. Experience has shown the most resistant workers typically become the most committed when their concern or anger is dealt with to their satisfaction toward positive outcomes.

I've focused here on just some martial arts mindsets that apply to harnessing stress power. There's a lot more, and numerous physical techniques, as well. [By resolving issues inside you first](#), rather than trying to force others to think or act a certain way, you'll be more influential and will experience less dysfunctional and frustrating stress

[Survey Says....Renewed Commitment to Safety Needed](#)

Each year, Kimberly-Clark Professional conducts a survey of safety professionals to identify the current status, trends, and use of [personal protective equipment \(PPE\)](#) in the workplace. We share its findings each year to help safety professionals across North America with insights that [create safer, healthier, and more productive workplaces](#). The surveys have included responses from safety who are responsible for purchasing or influencing the purchase of PPE. Respondents are from companies of various sizes, having fewer than 100 employees to more than 500 employees, and industries ranging from aerospace, metal manufacturing, oil and gas, construction, and utilities to food processing, just to name a few.



In the latest survey, it shouldn't be surprising that, based on the professionals surveyed, 85 percent state that safety is a top priority within their organizations

<http://ohsonline.com/articles/2013/06/01/survey-says.aspx?admgarea=ht.PPE>

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