

Vertically Speaking

Tired of Fatigue

Humans are designed to be awake during the hours of light and to sleep during periods of darkness. In scientific terms, this is called the body's natural clock, or circadian rhythm. Disturbances to the established circadian rhythm can reduce mental and physical performance, which can be described in one word — FATIGUE.

I'm tired of seeing fatigue as a factor in so many of the accidents I investigate as part of my work. Let me tell you about one of them, which involved a friend I will call "Sam." I did not know Sam was involved in the accident when I received the assignment. As I walked up to the wreckage, I made an initial assessment of the helicopter's condition. The rotor and transmission had separated from the aircraft. Then I turned and saw Sam and his student. They were not injured physically, but both were sitting on the ground in a shock-like state. The first thing Sam said to me was: "Matt, I knew I should not have been flying, but I did it anyway." A momentary lapse in judgment left no one at the controls during a three-foot hover, and the rest is history.

What leads to that kind of lapse in judgment? Mental and physical fatigue. Sam was going through a divorce, a bitter custody battle, and financial troubles. He had moved out of his primary residence, had a recent job transfer, and was dealing with the death of a close family member. Oh, and he also had a sinus infection. Life's many developments had taken their toll on Sam.

One of the worst places for a fatigue-related accident is in the Helicopter Emergency Medical Services (HEMS) world, which includes high demands and pressure to move quickly. For both pilots and mechanics, HEMS is a unique helicopter operation. Pilots fly most operations alone and predominately under visual flight rules (VFR). They generally work 12-hour day or night shifts. Medical crews typically work 24-hour-plus shifts. Fatigue can be a significant factor in job performance, so HEMS work needs to incorporate plenty of fatigue risk management methods. As you may know, the FAA regulates requirements for pilot flight duty and rest, but the agency has no jurisdiction over the medical

crew's duty and rest times. Advisory Circular AC00-64, Air Medical Resource Management, provides guidance for initial and recurrent training of air medical transport crew members.

The Aeronautical Decision Making (ADM) chapter in the FAA's Pilot Handbook of Aeronautical Knowledge (<http://go.usa.gov/Yz4H>) calls out the IMSAFE checklist, something readers of this column may have seen previously.

1. Illness — Am I sick?
2. Medication — Am I taking medicines that might affect my judgment or make me drowsy?
3. Stress — Am I under psychological pressure from the job? Do I have money, health or family problems? Stress causes concentration and performance problems.
4. Alcohol — Have I been drinking within eight hours? Within 24 hours? As little as one ounce of liquor, one bottle of beer, or four ounces of wine can impair flying skills.
5. Fatigue — Am I tired? Fatigue continues to be one of the most insidious hazards to flight safety, as it may not be apparent to a pilot until serious errors are made.
6. Eating — Have I eaten enough to keep me adequately nourished during the entire flight?

Most pilots, mechanics, and flight crews are task oriented and want to get the job done no matter what we have going on in our lives. Everyone working in the aviation industry should use the IMSAFE risk mitigation strategy. As the name suggests, it could make the difference between a safe flight, and "I knew I should not be flying, but I did it anyway."

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