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Tapestry of Disaster: An Accident Story

By Parvez Dara, MD, FACP

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Often, in his most reflective moments, he would extol the many virtues of flying; the splendor of sights, of new places but mostly of its freedom. He was 60 on his last birthday, a Vietnam veteran with an artificial leg flying with a 2nd class medical certificate, and a Statement of Demonstrated Ability (SODA).

He flew with precision, dedicated to his hobby and mode of transportation. Every flight was enriching to him. He performed the task of flying with zeal, from checklist to checklist, double-checking while motoring one to two miles above terra firma.

So on that cold, rainy night in October, when I got the news of his plane crash, it scared me, then chilled me, and finally numbed me. He was, in my mind, going to be an old pilot, for he was never bold. He flew this immaculately dressed Mooney 201. But the plane he crashed in was a Cherokee Six.

He apparently flew it with the gust locks still in place!

The plane had taken-off, gained 500 feet and then, predictably, plowed into the woods. This man, in life a stickler for checklists, in death was now the object of a storm of controversy and was leaving a legacy he would not have been proud of.

They tried to piece together the shattered workings of his mind and the associated features of the ill-fated flight on that rainy night in October. 'Accidents don't just happen,' said the aviation counselor from the FAA, 'Planes don't just fall out of the sky.' There is some truth to this, if you were to evaluate the cumulative vapor trail that eventually condenses into the big splash, a multiplicity of factors have been involved.

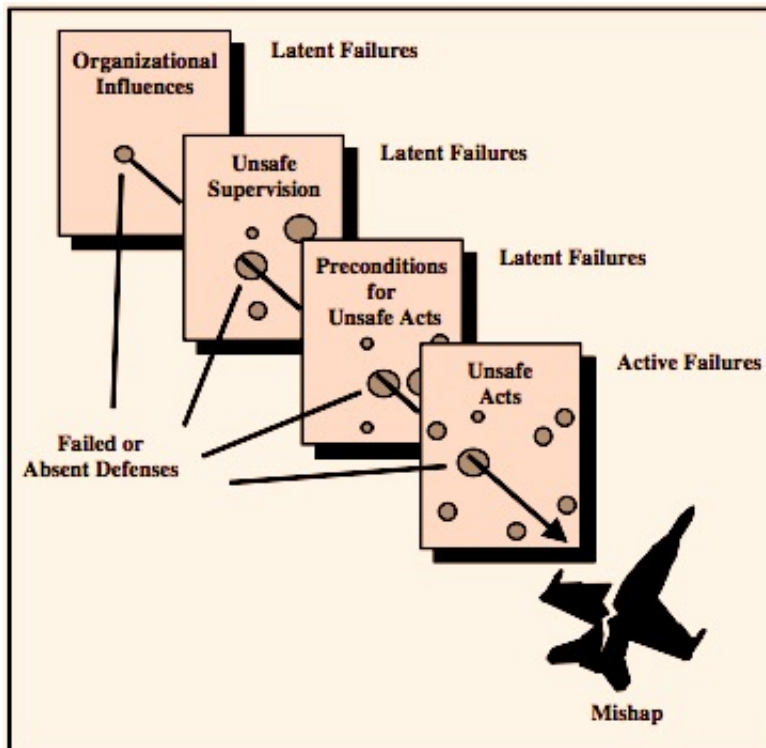
Let's look at the so-called 10- to 17-percent of catastrophic engine failures in piston aircraft. I am not a betting man, but I can wager that most, if not all of them, gave plenty of warning signals and, hence, could have been averted. The gremlins may have shown up on a previous flight, in the pre-flight, or in an intuitive feel. The oil analysis may have revealed chewed metal in the filter, maybe preflight would have revealed the need for more oil. A blob of oil on the ground might have indicated a leak, or discordant magneto check might have foreshadowed a problem. In flight, it may have been a change of the aircraft's behavior, in its speed, sound, dynamics, the hum, and all of the subtle noises



that we are attuned to in the cockpit. This subtle vapor trail of metal, sound, feel, and dynamics is there for us to recognize.

When we commit an error it is generally an isolated one and we get away with it. This 'getting away' mentality, unfortunately, reinforces the behavior as being okay. But start stitching a series of these scenarios together, and a tapestry of disaster unfolds.

Imagine a series of cards with random holes in it reflecting the error-prone deficiencies of human beings. Each little hole reflects an act of omission or commission (failing to check the trim, or the fuel quantity, and so on; you get the point). Once in an unfortunate while, when those holes line up in sequence, an accident occurs.



The first priority to safety remains trying to patch the holes in each of those successive cards. Learning the art of flying, practicing it, constructing a practical checklist for all possibilities, and never taking flying for granted. For instance, every time before I fly into an airport, I look at its layout to see on departure where a straight-in engine out on takeoff or landing would save my bacon. Not much but it keeps your guard up.

Consider the big boys, who dream of flying Mooney's but are stuck with the



Boeing's. They, too, can have a bad day. The flapless take-off in Detroit, Michigan, led to hundreds of fatalities. A minor mistake that led to a major tragedy. A Continental aircraft was about to land gear-up at Newark airport until advised by an American pilot on the ground to put the wheels down. Mistakes from shoddy cockpit behavior, taking things for granted, or having the attitude that 'I am the greatest' will bite.

Flying in low overcast without the prerequisite experience or attempting a crosswind landing beyond your abilities speaks volumes of the male gender. Some of the newly minted and even long-time pilots with little weather experience venture into the gray unknown of an overcast day just for a rush or, better, stupidity. How can you justify that with anything but the remark, "idiots?"

There are preconditions that allow these unsafe acts to occur [according to the Office of Aerospace Medicine's technical report, The Human Factors Analysis and Classification System (Shappell & Wiegmann, 2000)]:

Substandard Conditions of Operators

Adverse mental states

Psychological states

Physical and mental limitations

Most of these preconditions are obvious, but "Substandard Practices of Operators" includes Cockpit Resource Management and Personal Readiness. The former could be flying without adequate charts, approach or en route; not using checklists; and not following the guidelines for fuel reserves. The latter is when your instinct tells you, because, for example, you aren't current, that "It is not good to go even on a severe clear and a million day."

Now, I'll get back to the story. Our veteran aviator would occasionally drink beer but, cognizant of the regulations, he would wait eight hours before flying. He mostly flew his Mooney, where his checklist was always dangling from the mixture control knob and he never allowed himself to rush.

On the fateful night, he had consumed alcohol nine hours before, but he also had taken an over-the-counter medication for allergies, which, it turns out, decreases the alcohol metabolism in the body (slows the breakdown of alcohol, hence the effects of alcohol are prolonged in the body). He was flying an aircraft that he was not totally familiar with, and all his tell-tale readiness checklists were not present to help him where they usually presented themselves before flight, and he was in a rush to pick up his friend from an airport only 20 miles away before a line of thunderstorms came through (that



friend owned the Cherokee).

A normally careful, analytical mind was reduced in alacrity and unencumbered by the weight of previous knowledge through the harmful effect of persistent alcohol in his body. The pilot failed to see the cues of impending disaster. Having found none of the patterned elements that had kept him safe all along, his clouded brain egged him on that day and sought to play its own game of chance.

There are many lessons to learn from this story. My own guidelines are as follows (add on to them as you please):

Know your limits.

Observe those limits.

Develop good habits – use checklists.

Follow those habits.

Rectify a “quick getaway” scenario; do not amplify it.

Be constructively critical of each flight.

Even the best pilots make mistakes - minimize the number and break the chain.

Always think about possible errors.

If intuition tells you something is wrong, prove the intuition to be wrong before proceeding. Intuition is mostly right.

Alcohol, with or without medicines, is dangerous.

Ground yourself voluntarily, if you need to, for any medical reason.

Death is not an option.

Improve technique; periodically practice safe flight with an instructor.

If flying a different aircraft, become thoroughly familiar with it before flying it.

Do not violate the rules; they are the products of previous tragedies.

Good decisions are born of good judgments, and good judgments are born of prepared, rested, and alert minds.

Fly safe – always!

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