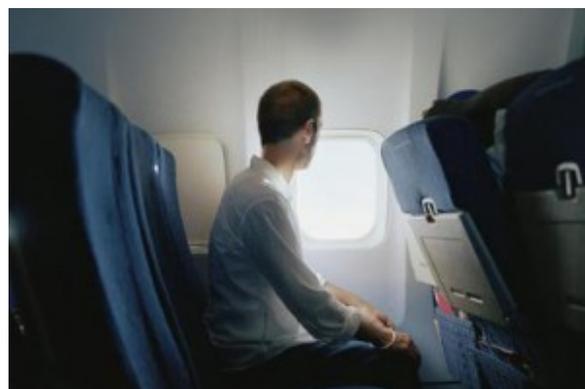




# Flying anxiety (or fear of flying): How not to die in your next flight

Okay, I will come right out and say it: I do not like flying. My experience today is so different from that when I was younger. Encountering air turbulence then was like a fun ride on a roller coaster. Heck, I could even finish a 300-page novel in one of my 13-hour flights. But today, I would be lucky to finish even one chapter. I cannot sleep in the plane because I feel like I am falling. I have tried [Alprazolam](#), but this calming medication fails to sufficiently dull my senses.

In the US, one in three people suffer from flight anxiety. I failed to find a figure for Malaysians, but I suspect just as many of us also (silently) suffer from flight anxiety. Former local pilot [Captain Lim Khoy Hing](#), who runs the popular [“Ask Captain Lim” web site](#), often fields questions from Malaysians on their fear of flying in his site.



[By 2016, the aviation industry would welcome nearly 3.6 billion air passengers.](#) The number of air passengers increases by 5% each

year. With increases in the number of air passengers and flights as well as longer flights, flying anxiety is expected to become an increasing problem (photo from [airtravel.about.com](http://airtravel.about.com)).



Former local pilot Captain Lim Khoy Hing is frequently asked by Malaysians about their fear of flying in his website “Ask Captain Lim”. His popular book [“Life in the Skies”](#) tells of his experience as a pilot as well as dispenses advice about flying to air passengers (photo from [askcaptainlim.com](http://askcaptainlim.com)).

Moreover, our flying anxiety can suddenly become a problem despite our years of non-anxious flights. Former pilot [Captain Tom Bunn](#), the creator of the effective program called [SOAR \(Seminars On Aeroanxiety Relief\)](#), remarked that the experience of even a single bad flight or accumulation of stresses can cause us to quite abruptly become anxious about flying.

Malaysia’s recent twin air disasters, involving flights [MH370](#) then [MH17](#), was not only shocking but astonishing as well because they had occurred within a span of just four months of each other. News about air disasters often get wide and intensive scrutiny by the media, and they can easily bias our perception that flying is unsafe. But it is exactly because flying is so safe that whenever an air accident does occur, the incident is splashed around the world due to the rarity of

the event. In 2011, there was one fatality for every 7.1 million air travelers. Put in another way, there was one global air accident for every 1.6 million flights. Moreover, air fatality rates have fallen by over a third between the periods of 1990-2006 and 2007-2011. In other words, flying has become safer.

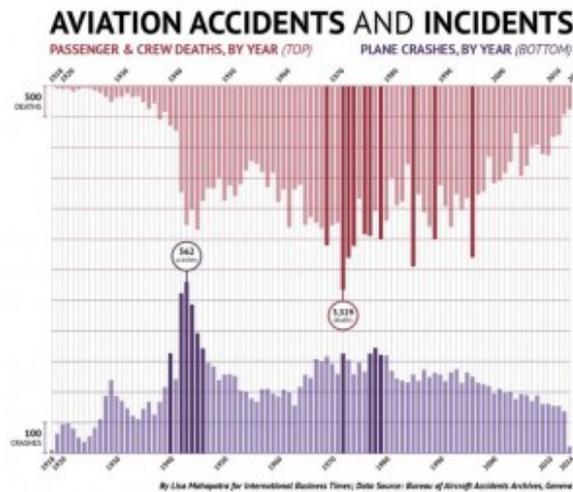


Unprecedented twin air disasters. On March 8, 2014, Malaysia airline MH370 disappeared and have yet to be found. Four months later, another Malaysia airlines MH17 was brought down over Ukraine air space, presumably due to a surface-to-air missile fired by Ukraine rebels (photo from [differenthdwallpapers.blogspot.com](http://differenthdwallpapers.blogspot.com)).

Flying has become safer because of improvements in aircraft, avionics, and engine technology. Pilot training, air navigational aids, and air traffic management have also improved. We are also now better in weather forecasting and in our understanding of weather phenomena. Another important reason is our reactive approach to air accidents. Whenever air accidents occur, they are investigated thoroughly to determine their causes, then to devise correctional methods to prevent such accidents from reoccurring.

Researchers Oster Jr. and his associates in 2013 observed that pilot error followed by equipment failure were the two most common causes of aviation accidents in 1990-2011 (they caused 40% and 38% of the total accidents, respectively). But Oster Jr. and his team were careful to remind us that although pilot error and equipment failure are the main causes of accidents, aviation accident rates, as mentioned earlier, have actually fallen over the years. Moreover, aviation accidents are rarely caused by a single factor. Instead,

accidents are often the culmination of a sequence of events. Had any of the individual events in the sequence been different, then the accident would not have happened. For example, a plane might have been brought down due to engine failure, but had the engine problem been detected early by the ground crew or had the flight crew responded correctly to land the plane safely, then the accident would have been averted.



Since the 1980s, the number of plane crashes have been steadily declining. The number of fatalities also show a general declining trend (photo from [www.ibtimes.com](http://www.ibtimes.com)).

Causes of accidents by region, non-U.S. and U.S. airlines, 1990-2011

Airline cause	Africa	Asia	Australia/ Oceania	Canada	Central America/ Caribbean	Eastern Europe/ Former Soviet Union	Middle East/ North Africa	South America	Western Europe	Total
Equipment	205	261	268	381	274	228	298	343	250	2000
Staff/aircraft/airline	83	83	83	83	0	83	83	83	25	100
Weather	226	83	381	131	124	104	181	115	148	1400
Pilot error	200	161	161	161	161	161	161	161	161	1600
Air traffic control	10	10	10	10	10	10	10	10	10	100
Communication error	10	10	10	10	10	10	10	10	10	100
Other aircraft	10	10	10	10	10	10	10	10	10	100
Non-aircraft/airline/aircraft	10	10	10	10	10	10	10	10	10	100
All causes	1000	1000	1000	1000	1000	1000	1000	1000	1000	10000
Unknown classification	100	200	200	100	100	100	100	100	100	1000
Passenger fatalities	2000	4000	3000	3000	2000	2000	2000	2000	2000	18000

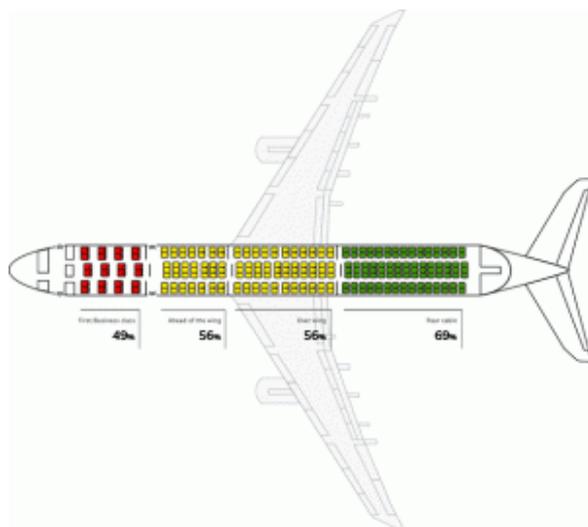
Source: Authors' calculations from World Aircraft Accident Summary (WAAAS) data (November, 2012).

Pilot error and equipment failure are the two most common causes of air accidents from 1990-2011 (from Oster Jr. et al., 2013).

In 2012, the UK TV Channel 4 screened a documentary named [“The Crash”](#) which showed a spectacular experiment which involved crashing an unmanned Boeing 727-200. The purpose was to determine the safest part of a plane during a crash. The aircraft flew by remote when it approached its intended crash site. The plane hit the ground at 230 km per hour, with a descent rate of 460 meters per minute,

and upon impact, the plane broke into several sections including a ripped cockpit. The experiment revealed that the front section of the plane (which usually seats the first and business class passengers) was the most dangerous part of the plane, experiencing an impact force of 12 G. Moving to the back of the plane meant the impact force was reduced to 6 G, leading to the conclusion that those seated at the plane rear would have a higher chance of surviving a plane crash than those seated at the front.

The Crash's experiment results concurred with the [more comprehensive study by Popular Mechanics](#). In 2007, the magazine Popular Mechanics surveyed all fatal plane crashes since 1971 and found out that passengers' chances of survival were 69% if they were seated at the rear of the plane, 56% at the wing, and 49% in the front. In other words, the front of the plane was, on average, the least safe section of the plane, with a slightly lower 50-50 chance of survival in a fatal plane crash.



We have an average chance of more 66% (two-thirds) surviving a fatal plane crash if we sit at the rear (photo from [www.popularmechanics.com](http://www.popularmechanics.com)).

So, the next time you pick your plane seat, you might want to increase your odds of survival by choosing one of those seats at the rear.

But statistics or so-called "head knowledge" seldom bring relief to many sufferers of flying anxiety. The moment the cabin door closes for takeoff, their feelings of helplessness and claustrophobia set in. Unlike a car, for instance, a plane cannot

just stop in midflight or land immediately to rectify a problem. For most sufferers, it is this loss of control that triggers their flying anxiety. This could explain why the [Sultan of Johor, Sultan Ibrahim Sultan Iskandar](#), suffers too from flying anxiety. Although His Majesty is a pilot and parachutist, [he recently admitted in a newspaper interview](#) that he becomes anxious while flying especially through air turbulence - but only if His Majesty is not piloting the plane.



Sultan Ibrahim Sultan Iskandar recently admitted that he suffers too from flight anxiety but only when he is not piloting the plane (photo from [batamtoday.com](#)).

The riskiest phases of flying are taking off, descending, and landing. Two-thirds of the fatal accidents in 2002-2011 had occurred during these phases. In contrast, the safest part of flying is when the plane is cruising with 11% of fatal accidents in 2002-2011 occurring during this phase.

Fatal accidents and exposure by phase of flight, 2002–2011.

Phase of flight	Percent of	
	Exposure	Fatal accidents
Taxi, load, unload, parked, tow	0	11
Takeoff	1	10
Initial climb	1	5
Climb (flaps up)	14	5
Cruise	57	11
Descent	11	4
Initial approach	12	14
Final approach	3	16
Landing	1	20

Exposure is the percentage of flight time estimated for a 1.5 h flight. Source: Boeing, *Statistical Summary*, 2012, p. 20.

The riskiest part of flying are takeoff, descending, and landing — and the safest is cruising (from Oster Jr. et al., 2013).

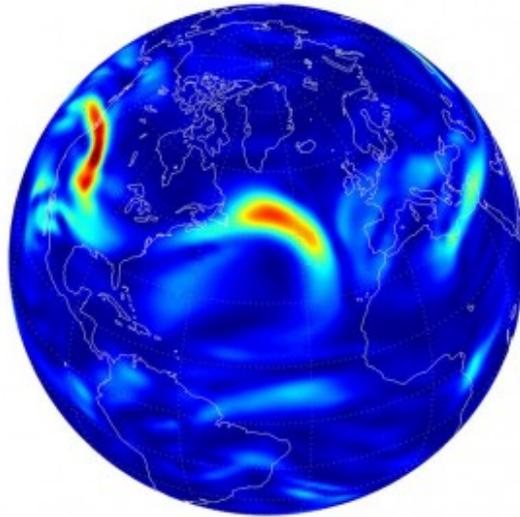
So, although the cruise phase is the safest part of a flight, it is ironically during this period that people most feel anxious. This is because the cruise phase takes up the bulk of the flight time (57% in 1.5-hour flight), and it is during this cruise phase that planes typically encounter turbulence.



Turbulence is among the most common reason people become anxious during flights (photo from [www.traveller.com.au](http://www.traveller.com.au)).

Air turbulence is perhaps the most common reason for flight anxiety although turbulence was not the cause of any of the global aviation accidents that occurred between 1990 and 2011.

Turbulence however is expected to become worse due to climate change. UK researchers Williams and Joshi in 2013 estimated through computer simulations that by 2050 climate change would increase the occurrence of turbulence in the North Atlantic flight routes in the winter by between 40 and 170%. The strength of turbulence is likewise expected to increase by 40%. In other words, we can expect bumpier flights.



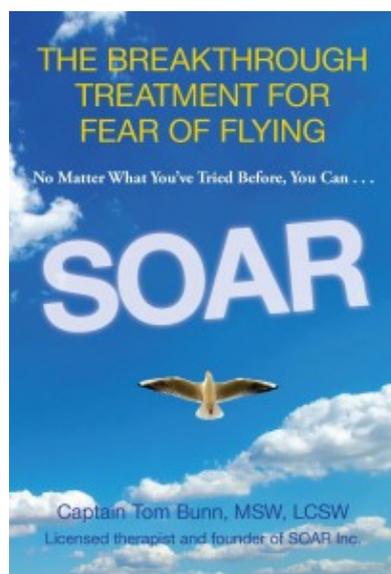
Areas of predicted increase in clear air turbulence (red denotes highest turbulence) in the North Atlantic flight routes in the winter due to doubling of carbon dioxide in 2050 (photo from [news.nationalgeographic.com](http://news.nationalgeographic.com)).

However, as Williams and Joshi noted, this issue of increased turbulence is a concern more on comfort than safety because airplanes today are built to withstand even severe turbulence. In addition, research by Oster Jr and his associates in 2013, as mentioned earlier, revealed that no aircraft fatalities had occurred in 1990 to 2011 due to turbulence.



A sudden encounter with a strong air turbulence sent this Singapore Airlines SQ308 (flying from Singapore to London) plunging for 20 meters. The turbulence caused a chaotic mess during the breakfast service as evident from this photo (photo from [edition.cnn.com](http://edition.cnn.com)).

For me, I am unsure what exactly triggered my flying anxiety, but I am learning to overcome it. In my last flight, for instance, my plane encountered a rather bad patch of air turbulence. While my plane shuddered and wobbled for nearly half an hour, I was amazingly calm. During the flight, I practised the [5-4-3-2-1 method as taught by the SOAR](#) program to help me refocus my mind's attention. I also know that a plane ride, even a turbulent one, often feels less bumpier than a car or bus ride. For instance, try drinking from a cup of water in a plane, and we will find this task often much easier to do in a plane than in a moving car. And the analogy of trying to dislodge a pineapple trapped in gelatin, as so wonderfully given in the SOAR program, also helps put things in perspective that, in turbulence, a plane ought to, well, fly *fast*.



SOAR (Seminar On

Aeroanxiety Relief) is an effective program to conquer flying phobia. This program was initiated by former pilot Captain Tom Bunn (photo from [www.amazon.com](http://www.amazon.com)).

There is no single bullet or method that would work for all sufferers of flying anxiety. This is because flight anxiety has a variety of causes, depending on the person. As someone who has to travel overseas due to work, I am learning to cope with my anxiety, and I like to think I am winning.

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