

Fatigue

Even in this day and age, many people think the life of an international airline pilot is a glamorous one. But a jaded long-haul pilot might think yes, the money's good and staff travel is cheap, but Perth to Dubai or Sydney to Santiago is a long time to be bored, especially since, thanks to Osama bin Laden, you're not allowed to invite passengers into the cockpit any more. And no matter how flash the hotel rooms are, after you've stayed in enough of them, they're all the same – just a bed and a shower.

But the main reason airline crews get to stay in nice hotels and not cheap fleapits is fatigue management. Because their jobs often involve starting and finishing at stupid o'clock, their companies often stipulate requirements such as quiet places with nice thick curtains to make the rooms dark, and 24-hour check-in and room service, and that pretty much limits your options to 4 or 5-star hotels.

Professional pilots

Almost all the literature on pilot fatigue is aimed at professional pilots. For a working pilot, your fatigue management is governed by CASA's rules or by a Fatigue Risk Management System that your company has in place, and that CASA has approved. That's why Ray and I, even though we're casual part-timers who get nowhere near the legal flight and duty limits, submit our flight and duty times to RACWA every month. The rules for commercial operators rostering their pilots are quite detailed, covering items such as minimum rest time before being rostered on, maximum length of a duty period, and minimum time between consecutive duties.

That's all very well. The boss can roster you and ensure you don't have too many working hours or too many flying hours in a day or week or month, but your boss can only worry about your work fatigue. Fatigue due to whatever you do outside work is yours to manage. If you come to work and the boss expects you to be on the ball because you've had three days off, there's not much point saying, "Well actually, I'm wrecked because I did the Busselton ironman yesterday." That's bad management on your part, not the boss'.

And that, of course, is where you find yourself as a private pilot. Like Ray and me, no private pilot gets near the 100 hours a month or 900 hours a year that apply to many commercial pilots, so it's typically not your flying that makes you tired. It's all the other stuff you do outside the cockpit, including work, play, and not getting enough sleep, but which will affect your flying.

Messing with your body clock

Circadian dysrhythmia is one of those nice scientific terms that basically means your body clock is temporarily out of sync with the normal day-night cycle. Although there were a few other key players such as Alessandro Volta, Thomas Edison is usually credited with being the inventor of the electric light bulb, which made shift work possible on a wide scale. In my humble view, that puts him in the dock as the inventor of circadian dysrhythmia, because until electric light, people mostly worked and played by day and slept by night. Working long or odd hours or night shift is still the most common way to mess with your body clock.

And the other way, of course, is to travel halfway round the world, not in the six or eight months it took Captain Cook, but in a day. When you wake up in a time zone that bears no resemblance to your body clock, it takes a few days to get back to a normal, non-fatigued state. For most people it's about a day per time zone, except that, as many of us can attest, it's worse travelling east. That's because your body's natural daily cycle is more like 25 hours than 24, and we just fit it into 24 because how

long it takes the earth to spin around once. When you travel west, you add hours to your day, which your body clock would like to do anyway, so that's generally easier on you than going east. In any case, if you apply a general day-per-time-zone rule, after your trip home from Europe it's probably a good idea to wait a week or so before you go flying. You may feel all right – not totally wrecked – by Day 2 or 3, but that doesn't mean you're on the ball enough to fly an aeroplane safely.

Chronic fatigue

From experience, I know the best thing about being a chronic insomniac is that it's never more than a dozen sleeps till Christmas. If you're an insomniac, a new parent whose baby refuses to sleep at night, or someone who regularly goes to bed too late and gets up too early, chances are you'll be suffering from a chronic fatigue condition, where you're never really as fully rested as you'd like to be. That's something that probably requires medical intervention or lifestyle changes.

Acute fatigue

Acute fatigue is the shorter-term fatigue due to a factors such as a bad night's sleep, a lot of physical activity, or a long day (or days) at work. A few weeks going flat out at harvest or a couple of weeks of FIFO night shift are not bad things when you're trying to make a living, but they're not going to mix well with flying.

And then there's the fatigue that comes as a result of your flying. That can be physical, from heat, turbulence, noise, or a long trip, or mental, from a high workload, grumpy passengers, or worrying about whether the weather is going to hold out or whether you'll need to divert.

How it affects you

Fatigue inhibits your higher-order thinking, including the ability to recognise that you're fatigued. That's no different from the problems with recognising hypoxia when you're hypoxic or recognising drunkenness when you've had a skinful.

Warning signs include:

- Obvious tiredness symptoms like yawning, staring and eyelids drooping;
- Irritability;
- Lack of awareness eg. missing radio calls or checklist items;
- Diminished motor skills eg. inaccurate flying, or writing trailing off as you're copying something down;
- Slower reaction time;
- Short-term memory problems eg. not remembering a clearance long enough to write it down;
- Fixating on one thing, such as a fuel log or a radio conversation, to the exclusion of possibly more important tasks;
- Poor scanning if you're flying on instruments;
- Poor decision-making.

There are plenty of stories from multi-crew flying of a pilot dozing off and waking up to find the other pilot asleep. That would be a scary warning sign!

When you're tired, the tasks that take more brainpower are more likely to be done badly. You're more likely to misinterpret an ATC instruction, to read back the frequency change you were expecting rather than the one ATC actually gave you, or continue when diverting would have been the better option. But you're also likely to go wrong with the monotonous tasks – the ones that you can (but

shouldn't) do on autopilot. When you're tired you're more likely to do a fuel check but forget to switch tanks when you should, or to say "undercarriage" in your pre-landing checks but not actually do anything (although a loud horn when you reduce power on base will probably wake you up.)

Managing it

If you're a professional pilot, you and your employer share the responsibility for managing your fatigue. But as a private pilot, the ball is entirely in your court. Firstly, there is never any such thing as having to fly, so just as for marginal weather, if there's any doubt about your fitness to fly, there's no doubt. Stay on the ground.

Adequate sleep is the only way to minimise fatigue. So if you're planning to fly, particularly if you're going any distance, you can help yourself in the days leading up to your flight. It's not rocket surgery, as they say, and nothing you haven't heard before, but plan your work and play to ensure you get enough sleep, stay off the alcohol and sugar and caffeine close to bedtime, and eat and drink things that won't interfere with your sleep. And remember you're not the only one who has an interest in you being well rested and fit to fly. Your passengers do too.

Kevin