



# The Middle-Aged Pilot

Stressed? Overweight? Unfit? You could be suffering from middle-age. Don't worry, there's still time to get your health in order.

**Dr David Newman**

**N**ow here's an interesting statistic to consider – the average age of pilots in Australia is 44. While pilots of this age have generally acquired a lot of flying experience and skill, it is around this time that things may begin to change on the health front. As we age, our bodies tend to wear out, and the statistical chances of being diagnosed with a disease increase.

The ageing process happens at different rates for different people, but ultimately the in-service

life of the average human is approximately 75 years. Early signs of deterioration begin to become apparent during middle age, beginning around the 40s.

Depressing, but true. But it's not all bad news. Middle age often brings the wisdom and motivation to take action to ensure you retain your health for as long as possible.

That's clearly a better option than losing your licence due to medical problems, or having an accident due to not recognising the early signs of impending poor health.

Having said that, the aim of this article is to examine what things start to go wrong in the 40s. What should you look out for? It's not quite a case of waiting for bad things to happen, more a case of knowing what to expect, and what to do if you notice certain symptoms. In this way a small problem can be dealt with before it becomes either a life-threatening or career-ending problem.

Before we consider the effect of ageing on different body functions, it is worth emphasising an important point. As a subgroup of the popu-

lation, pilots tend to enjoy a relatively higher standard of health than non-pilots. That's because we all undergo initial medical screening for the purposes of gaining our licences, and medical examinations at regular intervals after that. The side-effect of this is that if we develop a medical problem, it is usually detected and treated earlier than is the case in a non-pilot. That's good news for us pilots. So your next visit to your Designated Aviation Medical Examiner (DAME) should be thought of as essential pilot maintenance.

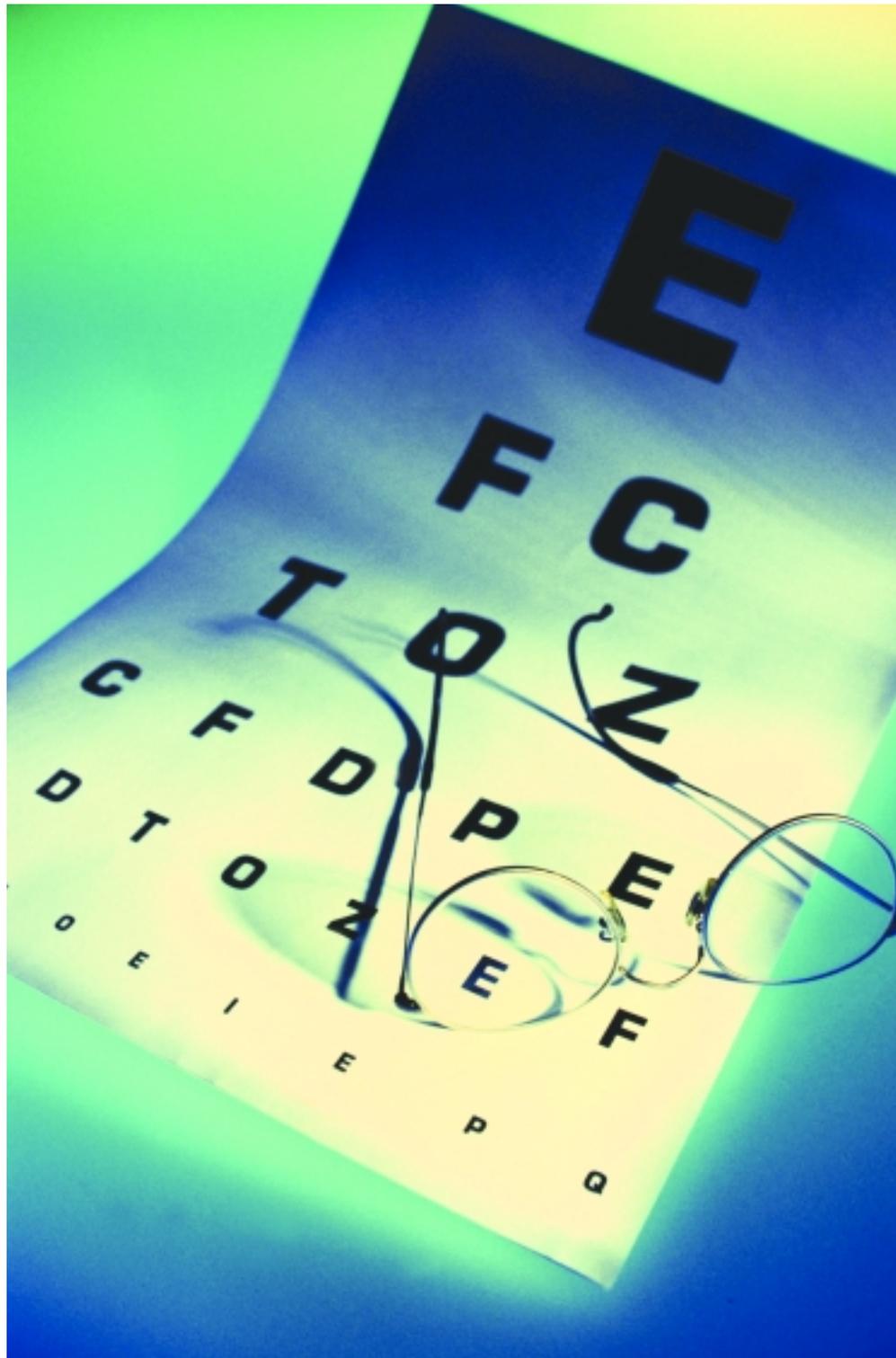
**Weight:** So let's have a look at the sort of things that might happen once you've celebrated your 40th birthday, and you suddenly realise that you're not 25 and bulletproof any more. In your 40s you might notice that you're less physically fit than you used to be in your 20s. Perhaps you've also noticed that you're a few kilograms heavier than you used to be. This gradual weight increase is commonly (and perhaps accurately) known as "middle-age spread." A more sedentary lifestyle in middle age, combined with less physical activity, help to create this weight gain.

**Stress:** The overall stress of life becomes greater in your 40s. There are many more responsibilities and pressures on a pilot. There are the competing demands of work and family life. The demands of work can be very exacting.

Flying the aircraft may be just one aspect – there may be additional management tasks within your aviation organisation that you are responsible for, and that seem to take up more and more of your time.

If you're a private pilot, your working life may be placing extra pressures on you, leaving little time to indulge your love of flying. Juggling the requirements to work, spending time with your family and keeping as current in the air as possible can be stressful. Financial pressures may be adding to your problems. These things all take their toll on your health, leaving you feeling tired, stressed and fatigued.

**Fatigue:** So after all that, the least you could expect is a good night's sleep, right? Not quite. As we get older, the overall quality of sleep deteriorates. It becomes less restful. The number of times you wake up during the night tends to increase with age. Adults usually spend less than 2% of a sleep period awake, but this proportion increases after age 40. These awakenings lead to disturbed sleep, and the feeling the next day that you are still tired and fatigued. Leg movements during sleep and sleep apnoeas (stopping breathing for short periods during sleep) become more common with age. Some 2/3 of middle-aged males have spontaneous leg move-



ments during sleep, which can cause brief awakenings and disturb sleep even though the individual may not notice them. Sleep apnoea commonly affects overweight males aged between 40 and 60, and results in excessive daytime sleepiness and feelings of extreme fatigue.

**Sight:** Eyesight is particularly important for pilots, but this too deteriorates with age. The

focusing power of the eye reduces in middle age, mainly due to changes within the lens of the eye. The lens fine-tunes the focus of the eye, after the cornea at the front of the eye has done the bulk of the work. For the lens to work, it has to change its shape slightly, a phenomenon known as accommodation. As the eye gets older, the lens progressively loses its elasticity. It becomes more rigid, and unable to accommodate. To put this

into perspective, the accommodative power of a 44-year-old lens is three times less than that of a 10-year-old lens. The power of a 50-year-old lens is 7 times less.

What does this mean in practical terms for a pilot? It means that the eye cannot focus as easily on near objects any more – the eye has become long-sighted. With reducing accommodative power, the point at which the eye can focus on a near object moves further away.

Pilots may notice that when reading they have to hold the book or chart further away from them. It's the old complaint that one's arms aren't long enough any more! Reading becomes progressively more difficult, and in fact may be impossible without corrective spectacles. The instrument panel may not be as clear any more either, which can clearly pose some problems.

This gradual deterioration of vision with age, known as presbyopia, will occur at different times in different pilots. In general, a young pilot who is shortsighted now will develop problems with reading later than another pilot of the same age who has normal vision. Fortunately, presbyopia can be easily corrected with spectacles. A fuzzy instrument panel is nature's way of telling you that the time to wear reading glasses has come!

**Hearing:** What about hearing? As you might have guessed by now, that also deteriorates with age. The combination of exposure to aircraft noise and the general ageing process can result in gradual worsening of hearing. Age-related hearing loss, known as presbycusis, is a very gradual process, and many pilots will not develop it to a noticeable extent until much later in life.

In some pilots, however, the gradual worsening will become more obvious during their 40s. In practical terms, it may mean that they can no longer hear cockpit conversations as easily, and may need the volume on the radios turned up a little more than their younger co-pilot.

**Diabetes:** What else can go wrong during this period? Adult-onset diabetes is more common in middle age, and is often related to increases in weight. Diabetes has a number of implications, not only for long-term health and well-being but also for a flying career. Medication may be required, which may affect a pilot's medical certification, but often simple dietary modifications and weight loss are sufficient to control this problem.

**Prostate cancer:** If you are male, the risk of prostate cancer rises with age. Around the late 40s and early 50s, this risk is worth taking into

account. If caught early, this cancer has a good outcome. It is a good practice for male pilots to have regular blood tests to ensure prompt and early detection if this form of cancer develops. A prostate-specific antigen or PSA test is a simple blood test that is well worth having on an annual basis once you turn 50.

**Heart:** Perhaps the most significant thing to be



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**// High blood pressure is the most common cardiovascular problem in aviation medical examinations. //**

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concerned with as you enter your 40s is your cardiovascular health. High blood pressure is the most common cardiovascular problem in aviation medical examinations.

The risk of developing high blood pressure rises dramatically in middle age. The significance of high blood pressure lies in it being a major risk factor for heart disease, stroke and kidney disease. The combination of low physical activity levels, smoking, stress and age make high blood pressure more common in the 40s.

Heart disease is extremely common in the Western world, and is one of the three main causes of death. Heart disease becomes more common after the age of 40. It can lead to sudden incapacitation – indeed, the risk of incapacitation rises exponentially between the ages of 30 and 60. It can also lead to sudden death, with some studies indicating that 50% of those who die from a heart attack do so within two hours. From a career point of view, it can lead to

temporary or permanent disqualification from flying duties.

There is a list of well-known risk factors for heart disease – age, gender, high blood pressure, high cholesterol levels, smoking, a family history of heart disease, and diabetes. While there is little that can be done about family history, age and whether you're male or female, the risk of heart disease can be reduced substantially by taking care of the other items in this list.

It is difficult to determine by yourself that your blood pressure is too high or that you might be developing heart disease. Certainly being easily breathless, or experiencing chest pain are good indicators of a problem, but by the time you get these symptoms the disease process is pretty well established. A regular physical examination and some other investigations such as blood tests and an electrocardiograph (ECG) will give you a better picture of the state of your cardiovascular health.

The increased risk of cardiovascular disease is one of the reasons why the requirement to visit your DAME becomes more common after age 40. The frequency of some of the tests, such as the ECG, also becomes greater after age 40. For a Class 1 Medical certificate (CPL or ATPL), the annual examination requirement remains unchanged, but an ECG is required every year from age 40 (compared with every two years for pilots aged 30 to 39).

For a private pilot with a Class 2 Medical Certificate, a trip to the DAME is required every two years from age 40, compared with every four years for younger private pilots.

Are there any positives in getting old? Well, it very much depends on your point of view. Turning 40 doesn't have to mean the beginning of the end. It can represent an opportunity to take stock of your present situation, and make any necessary personal, domestic, financial and lifestyle changes to ensure that all of the problems mentioned above are reduced, minimised or eliminated.

In general, adopting a healthy lifestyle, with some regular exercise, a balanced diet, not smoking and having a sensible approach to drinking will help to achieve this. All things in moderation is not a bad rule to live by. If you take care of your health early on, you'll be in a much better position to enjoy a long and productive flying career.

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