



UNITED KINGDOM

AERONAUTICAL INFORMATION CIRCULAR

AIC 99/2004

(Pink 72)

14 October

National Air Traffic Services Ltd

Aeronautical Information Service

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Editorial: 020-8745 3458

Distribution: 0870-8871410 (Documedia Solutions Ltd)

Content: 01293-573700 (Medical Division)

Web site: www.ais.org.uk

Cancels AIC 25/1998 (Pink 168) and AIC 58/2000 (Pink 4)

MEDICATION, ALCOHOL AND FLYING

1 Research has shown that 'human factors' may be involved in up to 75% of aircraft incidents. Indeed accidents and incidents have occurred as a result of pilots flying whilst medically unfit and some have been associated with what could be considered relatively trivial ailments. Although the symptoms of colds, sore throats, diarrhoea and other abdominal upsets may cause little or no problem whilst on the ground they may become a problem in the flying environment by distracting the sufferer and degrading his/her performance in the various flying tasks. The inflight environment may also increase the severity of symptoms which may be minor while on the ground.

2 The following are some of the more widely used medicines which are normally considered incompatible with flying:

- (a) Antibiotics may have short term or delayed side-effects which can affect pilot performance. More significantly, however, their use usually indicates that a significant infection is present and thus the effects of this infection will almost always mean that a pilot is not fit to fly.
- (b) Tranquillisers, anti-depressants and sedatives affect reaction time and psychomotor performance, as well as altering mood. As with antibiotics, the underlying condition for which these medications have been prescribed will almost certainly mean that a pilot's mental state is not compatible with the flying task.
- (c) Stimulants such as caffeine, amphetamines, etc (often called 'pep' pills) used to maintain wakefulness or suppress appetite are often habit forming. Susceptibility to the various drugs varies from one individual to another, but all of them may cause dangerous over confidence. Overdosage causes headaches, dizziness and mental disturbance. The use of 'pep' pills while flying cannot be permitted. Coffee or tea, which contain caffeine may be used to aid alertness but if these are insufficient, you are not fit to fly and remember that excess caffeine may have unwanted effects including disturbance of the heart's rhythm.
- (d) Anti-histamines can cause drowsiness. They are widely used in 'cold cures' and in the treatment of hayfever, asthma and allergic rashes. They may be in tablet form or be a constituent of nose drops or sprays. In many cases the condition itself may preclude flying, and if treatment is necessary advice from an Aviation Medicine Specialist should be sought so that modern drugs, which do not degrade human performance, can be prescribed.

Some anti-histamines, such as diphenhydramine, are marketed as 'over the counter' medications, specifically to aid sleep. They have been implicated as a contributory cause in several aircraft accidents. These drugs should not be used by flight crew.

- (e) Certain drugs used to treat high blood pressure can cause a change in the normal cardiovascular reflexes and may impair intellectual performance, both of which could be a problem when flying. If the level of blood pressure is such that drug therapy is required the pilot must be temporarily grounded and monitored for any side-effects. Any treatment instituted should be discussed with an expert in aviation medicine and a simulator assessment or line check may be appropriate before returning to flying.

3 Following local and general dental and other anaesthetics, a period of time should elapse before return to flying. The period will vary considerably from individual to individual, but a pilot should not fly for at least 12 hours after a local anaesthetic and for 48 hours after a general anaesthetic.

3.1 The more potent analgesics (pain killers) may produce a significant decrement in human performance. If such analgesics are required, the pain for which they are being taken generally indicates a condition which precludes flying.

4 The only hypnotic (sleeping tablet) currently recommended by the CAA is temazepam. It may be used on an occasional basis only to assist sleep pattern during transient insomnia due to extraneous factors such as shift work or jet lag. The drug needs to be ground tested first (by taking it on a day when not scheduled to operate the following day) to ensure no adverse side-effects are experienced. The dose should be kept to a minimum. Ideally 10 mg is used although 20 mg is allowed in exceptional circumstances. The drug should not be combined with alcohol and at least 12 hours should elapse from ingestion of the drug to commencement of duty.

5 Melatonin is a naturally occurring hormone, which has now been synthesized and there is some evidence that it can help the symptoms of jet lag, taken close to the target bedtime at the destination if 5 or more time zones are crossed. It is classed as a dietary supplement in the USA and, therefore, is not closely regulated by the Food and Drugs Administration. Tests have found some preparations purporting to contain melatonin contained no melatonin at all. Melatonin derived from bovine brains is associated with risk of transmission of disease and there is no information available on the long term safety of this product.

6 If you are taking any medicine you should ask yourself the following 3 questions:

- (a) Do I feel fit to fly?
- (b) Do I really need to take medication at all?
- (c) Have I given this particular medication a personal trial on the ground of at least 24 hours before flight to ensure that it will not have any adverse effects on my ability to fly?

6.1 Confirming the absence of adverse effects may well need expert advice and the assistance of Medical Examiners authorised by the Civil Aviation Authority, both in the United Kingdom and Overseas, Airline Medical Officers or Military Doctors experienced in aviation medicine. The Medical Division of the Civil Aviation Authority should be contacted if you are in any doubt.

7 If you are ill and need treatment it is vitally important that the doctor whom you consult knows that you are a flight crew member and if you have recently been abroad.

8 Drugs of Addiction

8.1 Drugs in this group cover a wide field ranging from heroin and morphine to hypnotics, tranquillisers and so-called recreational drugs such as marijuana, 'crack' and 'ecstasy'. All have effects on the central nervous system and as such they are not compatible with the control of an aircraft. A person using them is not fit to be a flight crew member.

9 Alcohol has been a contributory factor to a number of aircraft accidents. It is well established that even small amounts of alcohol in the blood produce a significant and measurable deterioration in the performance of skilled tasks. JAR-OPS specifies a maximum blood alcohol limit of 20 milligrams per 100 millilitres of blood. This is a quarter of the maximum UK legal driving limit.

9.1 Alcohol is removed from the body at a relatively constant rate (approximately 15 milligrams per 100 millilitres, or one 'unit', each hour) regardless of the concentration present. Pilots should not commence duty for at least 8 hours after taking small amounts of alcohol and proportionally longer if larger amounts are consumed. It should also be remembered that alcohol can have delayed effects on blood sugar levels and the balance mechanism of the inner ear. The effects on the inner ear can be prolonged and increase susceptibility to disorientation and even motion sickness. It would be prudent for a pilot to abstain from alcohol for at least 24 hours before flying.

10 Attention is drawn to the following Sections in the Railways and Transport Safety Bill 2003:

(a) **Section 89 Being unfit for duty**

- (1) A person commits an offence if:
 - (a) he performs an aviation function at a time when his ability to perform the function is impaired because of drink or drugs.
- (2) In this section 'drug' includes any intoxicant other than alcohol.

(b) **Section 90 Prescribed limit**

- (1) A person commits an offence if:
 - (a) he performs an aviation function at a time when the proportion of alcohol in his breath, blood or urine exceed the prescribed limit.
- (2) The prescribed limit of alcohol is:
 - (a) in the case of breath, 9 micrograms of alcohol in 100 millilitres;
 - (b) in the case of blood, 20 milligrams of alcohol in 100 millilitres; and
 - (c) in the case of urine, 27 milligrams of alcohol in 100 millilitres.

This Circular is issued for information, guidance and necessary action.