



Update ME

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A brief update from the
Civil Aviation Authority
Central Medical Unit

17 November 2006

Reminder: Signing of ECGs

Unfortunately not all ECGs forwarded on to the CAA are clearly identified and labelled. Please ensure that all ECGs are named, signed, and have the leads clearly labelled.

In the post: ICAO – Singapore aviation medicine training course

In 2005, the International Civil Aviation Organisation (ICAO) made amendments to the medical provisions in Annex 1 (Personnel Licensing), making it mandatory for designated medical examiners (DMEs) to demonstrate adequate competency and have practical knowledge and experience in aviation medicine prior to designation.

Recent correspondence from the Singapore Aviation Academy describes a five-day training programme that they have developed, in association with ICAO and IAASM (International Academy of Aviation and Space Medicine), “to provide existing and potential Designated Medical Examiners with the necessary training required to meet ICAO’s requirements”.

The CAA medical unit has reviewed the course material and sees the course as providing adequate aviation medical training for New Zealand ME2 purposes.

Course dates are set at 19 – 23 March 2007 and the course is structured with approximately 200 pages of pre-reading material followed by course delivery, in Singapore, through presentations, case studies, group discussions, video clips, and professional site visits. Course fees are S\$2,100 / US\$1,400 (Approximately NZ\$2,000).

A copy of the course brochure can be obtained from the CAA Medical Unit or from Ms Chan Pin Pin (chan_pin_pin@caas.gov.sg).

Reminder: Cover letters

Most MEs include a cover letter when they issue a medical certificate to an applicant. Such a cover letter usually provides information about the medical assessment and any obligations that the pilot may have under the Civil Aviation Act.

Again this has proved to be a very valuable practice and all MEs are encouraged to incorporate a cover-

letter in all of their certification correspondence. Please contact the CAA Medical Unit if you’d like to see samples of such cover-letters.

Quiz Part 2: Routine ECGs for class 1 applicant

The healthy 56 year old male class 1 medical certificate applicant mentioned in the October 2006 newsletter is issued a full-duration class 1 medical certificate. Three months later, with no indication of ill health, he dies in the accident of an aircraft he was flying.

The coroner-authorised autopsy report included the following:

- Under the heading *Cardiovascular System*: “The pericardium and its cavity were normal. There were no anatomical anomalies of the systemic and pulmonary great arteries and veins and their attachments to the heart. The heart weighed 427g. This heart weight is about 100g greater than expected for body weight. Left and right atrium, all four heart valves, right ventricular wall and chamber were normal. There was mild left ventricular hypertrophy but no old scarring or evidence of recent infarction. The coronary arteries had a right dominant distribution pattern and their epicardial portions were free of significant disease. There were no coronary thromboses. The proximal aorta and its branches were intact and free of significant disease and the great veins in the chest and abdomen were normal. The distal abdominal aorta showed only minimal atherosclerosis.”;
- Under the heading *Respiratory System*: “Both lungs were diffusely congested. This may be a consequence of neurogenic pulmonary oedema complicating intra-cerebral catastrophe or indicative of acute cardiac failure preceding the crash and fire”;
- In the section of histological findings: “Myocardium shows regular mild hypertrophy with no disarray. There is scanty, predominantly interstitial fibrosis in sub-endocardium but there is no myocarditis, old infarction, or recent onset ischaemic changes.” And :Lungs show oedema and mild emphysema. There are many intra-alveolar pigment-laden macrophages, some of which contain carbon pigment only (as a consequence of cigarette smoking), but many of which contain significant quantities of haemosiderin (seen on Perl stained sections). This indicates that there is a significant element of pre-existing pulmonary micro-haemorrhage, most likely due to chronic congestive cardiac failure.”;

- In the conclusion section: “There was no evidence of incapacitation by carbon monoxide, drugs, or alcohol” and “There is profound pulmonary oedema and evident of a component of chronic congestive cardiac failure. While the pulmonary oedema might in part or entirely represent neurogenic pulmonary oedema in response to head injury, the timecourse is very short. I prefer the interpretation that there has been an acute cardiac event, most likely cardiac arrhythmia, resulting in sudden onset (acute), severe congestive cardiac failure prior to impact. Such an event would very likely render him incapable of control of the aircraft in the takeoff run.”

No other autopsy abnormalities were noted.

The CAA aircraft accident investigation report included:

- Section 2, *Analysis*: “The post-mortem report, when read in conjunction with the evidence gathered during the accident investigation, provides grounds to conclude that the pilot suffered a medical incapacitating cardiac event that rendered him unable to maintain control of his aircraft”;
- Section 3, *Conclusions*: “There was no evidence of any pre-existing mechanical defect with the aircraft but this could not be completely ruled out”;
- Section 3, *Conclusions*: “There were indications that the pilot suffered an incapacitating cardiac event during take-off”.

In the light of this development you review the ECGs. How do you now interpret those ECGs, what are the implications of your interpretation, and how would do you pursue this matter?

Reminder: Applicant ID

It is important that medical certificate applicants have their identity appropriately confirmed by the Medical Examiner. Many MEs photocopy the proof-of-identity document used and include this with the application ... this practice has already proved to be very valuable.

Please remember to both check, and also record, the proof-of-identity document that an applicant provides in support of their medical certificate application.

For arguments sake: Ignoratio Elenchi

Another Latin name! *Ignoratio elenchi* is one of the

oldest identified fallacies, having been first described by Aristotle¹. This fallacy occurs when someone believes themselves to be proving one thing, but succeeds in proving something else instead. *Ignoratio elenchi* makes a brief, but usually successful, appearance wherever someone accused of doing something they did do is quite prepared to deny something else. *Ignoratio elenchi* is not entirely unknown during parliamentary question time:

“Minister, isn’t it true that you have allowed the standard of living of the poor to fall in real terms?”

“What we have done is to increase by 3.7 percent the allowance to childless dependent females, and by 3.9 percent the allowance to widows with two children, these increases both being larger than our opponents ever managed in a single year of their term in office.”

You can also use *ignoratio elenchi* in an attacking role proving all kinds of things except the ones that matter:

“Jogging in public should be banned! There are studies which show it can increase the risks to health, rather than decrease them.

Quality: CAA file review

As a part of our ongoing quality assurance activities the CAA reviews a selection of medical certification decisions for administrative, procedural, and medical decision-making correctness. Problems noted during this file review process can lead to increases in workload for the CAA, MEs, and applicants and can, on the rare occasion, result in significant breaches in aviation safety.

Some MEs have a pre-dispatch check, and checklist, incorporated into their CAA medical certification activities. Such a check reduces the error rate prior to documents being sent to the CAA and, in turn, reduces the overall workload (and cost) of providing high quality medical certification services.

All MEs are encouraged to incorporate such a check. A checklist sample can be obtained from the CAA Medical Unit.

¹ Pirie, M. Book of the Fallacy: A Training Manual for Intellectual Subversives. Routledge & Kegan Paul Books Ltd (1985).

CAA Medical Help

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