Update ME

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A brief update from the
Civil Aviation Authority
Central Medical Unit

15 May 2005

This issue of the *Update ME* newsletter has expanded a little to two pages. The scope and nature of the content remains unchanged.

From the (draft) new Part 67

The draft re-issue of Part 67[1] (Medical Standards and certification) contains a number of new provisions when compared to the current rule.

One such change is the requirement for the submission (and maintenance) of an acceptable exposition as a part of an application to become an ME. Draft Rule 67.163 describes the items that must be contained in the exposition.

This change brings the Director's management of the CAA Medical Examiners into line with the management of other aviation document holders providing services within our safety regulatory system.

The proposed new Rule Part 67 places exposition requirements onto Medical Examiners.

From the literature: Parasports injuries

A recent article in *Emergency Medicine Australia*[2] reports a review of the Auckland City Hospital Trauma Registry in respect to parasport incidents during the 8-year period December 1994 – December 2002. This article considers parasports as comprising parachuting, skydiving / parachuting, paragliding, parapenting, parascending, parasailing, and hang-gliding.

The report's findings in respect to the high incidence of lower limb injuries in parachutists is consistent with past surveys of that particular parasport.

The report concludes that the true incidence or parasporting injuries is unknown but that they are a source of serious injury. The conclusion also states "The risk of injury from uncontrolled landings may be reduced by choosing appropriate flight plans and equipment to match the level of pilot experience, and by using protective equipment to support the ankle and possibly the lumbar spine during landings."

This article will be available online for a short time.

Reminder: Cardiovascular Risk

Civil Aviation Rule Part 67 requires cardiovascular (CVS) risk to be considered in the certification assessment. If an applicant's 5-year CVS risk, as measured using the NZ National Heart Foundation tables[3] or the RNZ College of GPs computer tool[4], is 10% or more then that applicant should be considered as having excessive CVS risk.

If an applicant's CVS risk is excessive they cannot be considered as meeting the medical standards unless normal myocardial perfusion can be demonstrated (e.g. Rule 67.55(b)(6)). The exercise stress electrocardiogram is usually the best initial investigation for purposes of demonstrating normal myocardial perfusion.

Cardiovascular risk must be assessed.

If an applicant's 5-year cardiovascular risk is 10% or greater then they do not meet the medical standards unless normal myocardial perfusion can be demonstrated.

The stress ECG is usually the investigation of choice for demonstrating normal myocardial perfusion.

Once normal myocardial perfusion has been demonstrated a repeat stress ECG is not necessarily required for each subsequent certification assessment. Such follow-up requirements would be approached on a case-by-case basis.

In the courts

The Director of Civil Aviation has appealed to the High Court in respect to the 18 March 2005 District Court judgment that upheld the appeal by an airline pilot against a medical certification decision[5]. In the interim the Director sought a stay of the District Court judgement. This stay was granted on 22 April 2005 by the High Court.

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[1] MoT's submissions on re-drafted NPRM

[2] Serious parasport injuries in Auckland, New Zealand. Christey GR. Emergency Medicine Australia, 17, 163-166, 2005.

[3] Evidence-based best practice guideline: The assessment and management of cardiovascular risk. NZ Guidelines Group. Page xxii. December 2003. (ISBN 0-476-00091-2)

[4] RNZCGP CVD Risk Assessment and Guideline 1996

[5] Media release: Appeal lodged by the CAA

The Director's appeal will be heard in the Wellington High Court, before Justice Wild, during the week commencing 30 May 2005.

From the literature: Evidence based risk management and aeromedical decision-making

The CAA's medical certification system endeavours to operate to a paradigm of aeromedical evidence-based risk-management.

This concept has been subject to intensive peer scrutiny at the "Show me the evidence!" panels of the 2004 and 2005 Aerospace Medicine Association annual conferences and a related publication in the journal Aviation, Space, and Encironmental Medicine[6].

A system based on honesty

One of the fundamentals underlying our regulatory medical system is an assumption that the person who applies for a medical certificate will tell the truth. Sadly we all too often discover situations where it is apparent that something other than the whole truth has been divulged.

It important for the CAA to take a reasonable stance in respect to the truthfulness of an applicant. Medical Examiners are the eyes and ears of the Director in most face-to-face medical certification assessments. It is important, therefore, for an ME to be alert to what an applicant has stated in their application and what they, the ME, are able to observe.

Alarm bells should be ringing when a nicotine / tar stained applicant, smelling of cigarettes, denies cigarette smoking on their application. If the denial is taken on absolute face value it has the potential to result in a dangerously incorrect cardiovascular risk assessment.

For example: In the case of a 54 year old, male, non-diabetic pilot with a BP of 160/95 and a Cholesterol/HDL ratio of 7. As a non-smoker their 5-year CVS risk would be in the 5 – 10% range while as a smoker they would lie in the 15 – 20% range[7]. In the latter case the CVS risk is excessive and they're unlikely to be issued a medical certificate until / unless the presence of reversible myocardial ischaemia is excluded … usually with exercise stress electrocardiography as the first investigation of choice.

Reminder: Extending a medical certificate

A recent incident where an ME '*extended*' a medical certificate that had expired prompts this reminder.

Section 27E of the Civil Aviation Act (1990) provides a facility for the extension of CAA medical certificates. This is a new provision that came into power on 01 April 2002.

For a medical certificate to be extended the following requirement need to be met:

- The certificate cannot have expired. An expired certificate doesn't 'exist'. It is not possible to extend something that doesn't exist.
- The certificate holder must have applied for a new medical certificate.
- Granting the extension must be safe. The ME who extends a medical certificate must be satisfied that granting the extension is a safe and reasonable thing to do. An extension should never be thought-of as being automatic or a 'given'. Much the same safety considerations need to be given to an extension as to the issue of a medical certificate.

The extension cannot exceed 60-days duration and can carry any additional conditions restrictions, or endorsements as the Director considers necessary.

For argument's sake

Petitio Principii, otherwise known as "begging the question", occurs whenever use is made in the argument of something which the conclusion seeks to establish[8]. The petitio is a master of disguise, and is capable of assuming many strange forms. One of its commonest appearances has it using a reworded conclusion as an argument to support that conclusion.

An example can be found in "Justice requires higher wages because people should earn more."

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[6] Aeromedical Decision-Making: An Evidence-Based Risk Management Paradigm. Watson DB. Aviation, Space, & Environmental medicine, 76(1): 58-62, 2005.

[7] Using the NZ National Heart Foundation CVS risk tables.

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