The Role of Preventative Medicine in Regulatory Aviation Medicine: An Airlines View

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Disclosure Information
85th Annual Scientific Meeting
Dr Tim Stevenson

I have the following financial relationships to disclose:

I am an Employee of Virgin Atlantic Airways Ltd

I will not discuss off-label use or investigational use in my presentation

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A summary:

- The current situation with “medicals”
- Brief overview of the *Spectrum* of wellness and its significance to the individual, the company and the travelling public
- Concept of wellbeing programmes for workplaces generally and their return on investment
- Changing the emphasis in the AME consultation

Current status

“Medicals” are designed as a screening process to detect illness or precursors to illness as well as any defects or deficits in function that might affect flight safety.

WHO definition of Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

- The correct bibliographic citation for the definition is:
- Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.
- The Definition has not been amended since 1948.

Current status

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Our medicals do not address whether or not our pilots are healthy

The Spectrum of Wellness/Wellbeing/Health

Wellbeing---suboptimal health---illness---chronic illness---death

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Death-death in service

PRICEWATERHOUSECOOPERS

HEALTH WORK WELLBEING

Building the case for wellness

4th February 2008

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The Business Case for Wellness

The cost of Short term sickness absence is relatively easy to quantify

E.g. a pilot having one day sickness absence costs a company $1000 to $1500 depending on seniority

Dr Nomy Ahmed's (Emirates) presentation to ASMA 2009

Implications of Obese Pilots to a Commercial airline

Obese pilots have co morbidity present in 91% cases

And take an average of almost 14 days more sick leave per year than non obese pilots (three times the level).

(costing possibly $14-21,000 per obese pilot per year)

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What are the types of wellbeing initiatives?

The more traditional reactive programmes aimed at preventing accidents and picking up signs of illness or ill health eg health surveillance , treatment programmes such as Physiotherapy or CBT.

Health promotion programmes looking at lifestyle issues such as Smoking, alcohol, diet, weight, physical activity.

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- Benefits
- Decrease in absenteeism and staff turnover, decrease in accidents and injuries with decrease in litigation and insurance costs
- Employee satisfaction/engagement
- Company profile Corporate social responsibility/ethics
- Financial return on investment in a wellness strategy 2.3-10.1

Changing the emphasis during the recurrent AME “medical”

Do we accept that promoting wellness is a good thing medically?

Can we see the personal, ethical, social, financial and business advantage in promoting a healthier lifestyle?

In an industry that prides and indeed comforts itself that safety is seen as being of paramount importance in all operational considerations, is it far fetched to postulate that there could be a direct relationship between a healthier lifestyle and a better safety profile for pilots?

Changing the emphasis during the recurrent AME “medical”

Knowing what we know about smoking for instance surely we are negligent if we don't point out to a pilot the benefits of stopping and the risks if they don't.

Likewise with obesity if we don't try and influence a pilot who is **morbidly** obese to make some lifestyle changes then morbidity and therefore some additional risk will follow.

However in the true spirit of preventative medicine we should be including lifestyle advice in the consultation long before our young pilots become Obese or adopt some other unhealthy lifestyle habits.

What type of things should we address during the consultation?

- Lifestyle
- Weight/diet
- Smoking
- Alcohol
- Drugs (both the obvious illicit drugs but also OTC Meds bought Down route and ones that are incompatible with flying)
- Sex
- Sun exposure (in most studies we have a generally healthy cohort apart from Malignant melanoma. Should we advise as a routine?)

Will they listen to us ?

AMEs are often the trusted physician who a pilot will see regularly throughout their professional life.

Often the only medical touch point for the younger fitter pilots who have not developed any noticeable or detectable morbidity and therefore no contact (yet!) with traditional or occupational health services.

Unique and powerful position to promote and facilitate change.

Do they have to listen to us ?

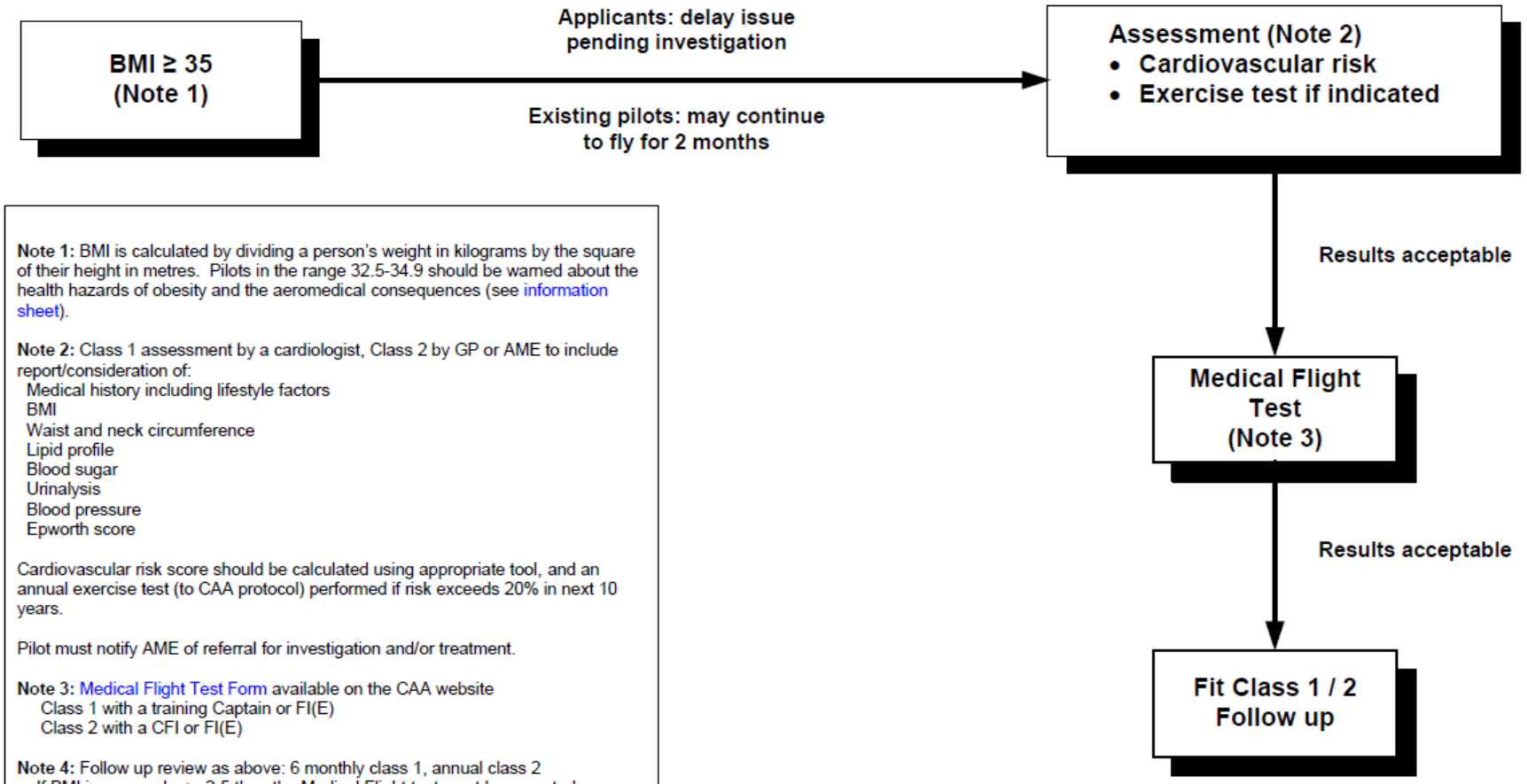
- No!!

- These general Health promotion messages can be acted upon or not

but

- **MED.B.025 Metabolic and Endocrine Systems Class 1**
- **Acceptable Means of Compliance**
  (b) Obesity
  Applicants with a Body Mass Index 35 may be assessed as fit only if the excess weight is not likely to interfere with the safe exercise of the applicable licence(s) and a satisfactory cardiovascular risk review has been undertaken.
  (UK CAA AMC, EASA Part-Med)

Class 1/2 Certification - Obesity



Note 1: BMI is calculated by dividing a person's weight in kilograms by the square of their height in metres. Pilots in the range 32.5-34.9 should be warned about the health hazards of obesity and the aeromedical consequences (see information sheet).

Note 2: Class 1 assessment by a cardiologist, Class 2 by GP or AME to include report/consideration of:

- Medical history including lifestyle factors
- BMI
- Waist and neck circumference
- Lipid profile
- Blood sugar
- Urinalysis
- Blood pressure
- Epworth score

Cardiovascular risk score should be calculated using appropriate tool, and an annual exercise test (to CAA protocol) performed if risk exceeds 20% in next 10 years.

Pilot must notify AME of referral for investigation and/or treatment.

Note 3: Medical Flight Test Form available on the CAA website
Class 1 with a training Captain or FI(E)
Class 2 with a CFI or FI(E)

Note 4: Follow up review as above: 6 monthly class 1, annual class 2
If BMI increases by >=2.5 then the Medical Flight test must be repeated.

UK Civil Aviation Authority
Guidance Material
Version 1.0 17/09/2012
www.caa.co.uk/medical

PLEASE PRINT THIS DOCUMENT AND TAKE TO YOUR SPECIALIST ADVISOR

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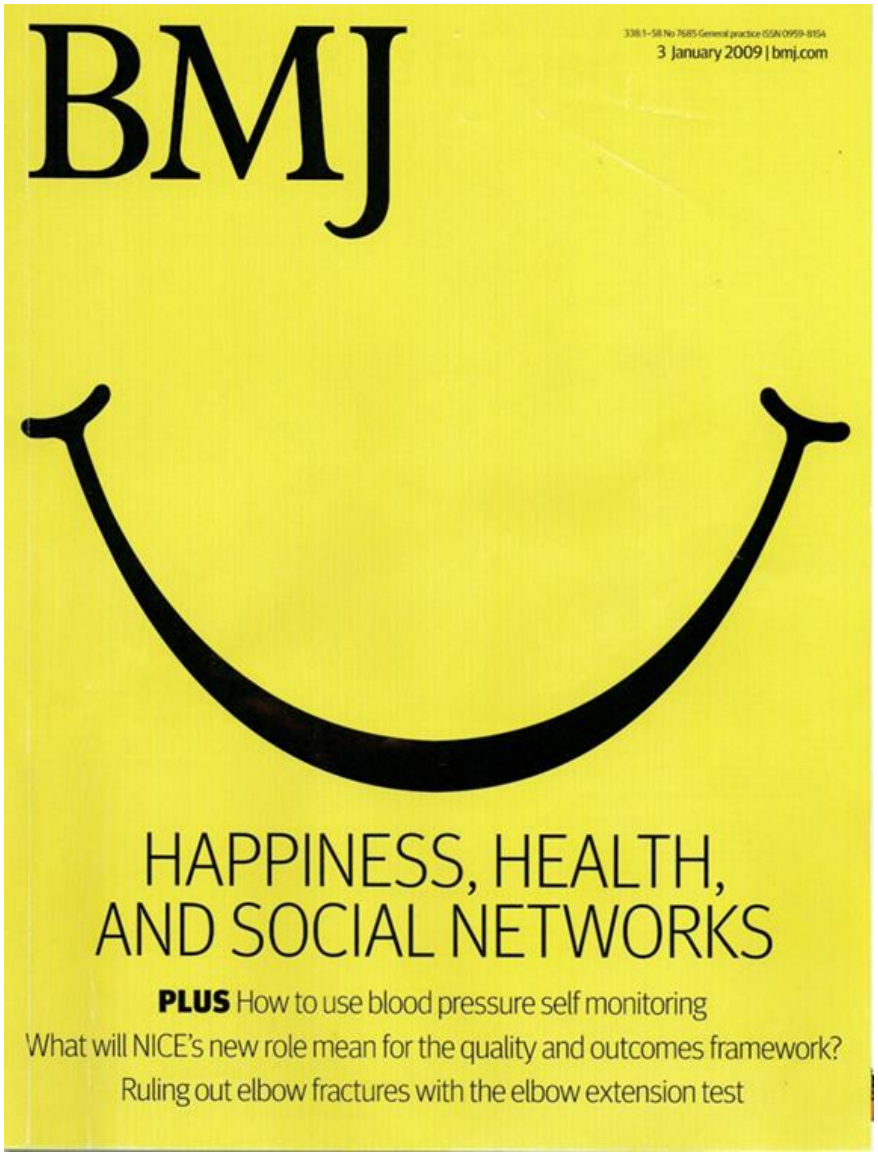
Definition of Obesity

Classification	BMI (kg/m^2)
Healthy weight	18.5–24.9
Overweight	25–29.9
Obesity I	30–34.9
Obesity II	35–39.9
Obesity III	40 or more

Relative Risks of Health Problems Associated with Obesity

Greatly Increased Risk	Moderately Increased Risk	Slightly Increased Risk
Type 2 diabetes	Coronary heart disease	Some cancers
Insulin resistance	Hypertension	Reproductive hormone abnormality
Gallbladder disease	Stroke	Impaired fertility
Dyslipidaemia	Osteoarthritis	Polycystic ovary disease
Breathlessness	Hyperuricaemia (Gout)	Low back pain
Sleep apnoea	Psychological factors	Anaesthetic risk



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Seems the right thing to do to promote wellbeing in all employees including pilots.

Evidence seems to point towards it being a win, win, win for Pilot, company and passenger.

A healthier pilot is a safer pilot!?

No additional regulatory burden on the company or the pilot.

Accepted best medical practice on part of AME being advocated.

No compulsion to accept the advice (until the secondary levels of prevention are reached ie disease or disease precursor detected at “medical”.


Any questions?