

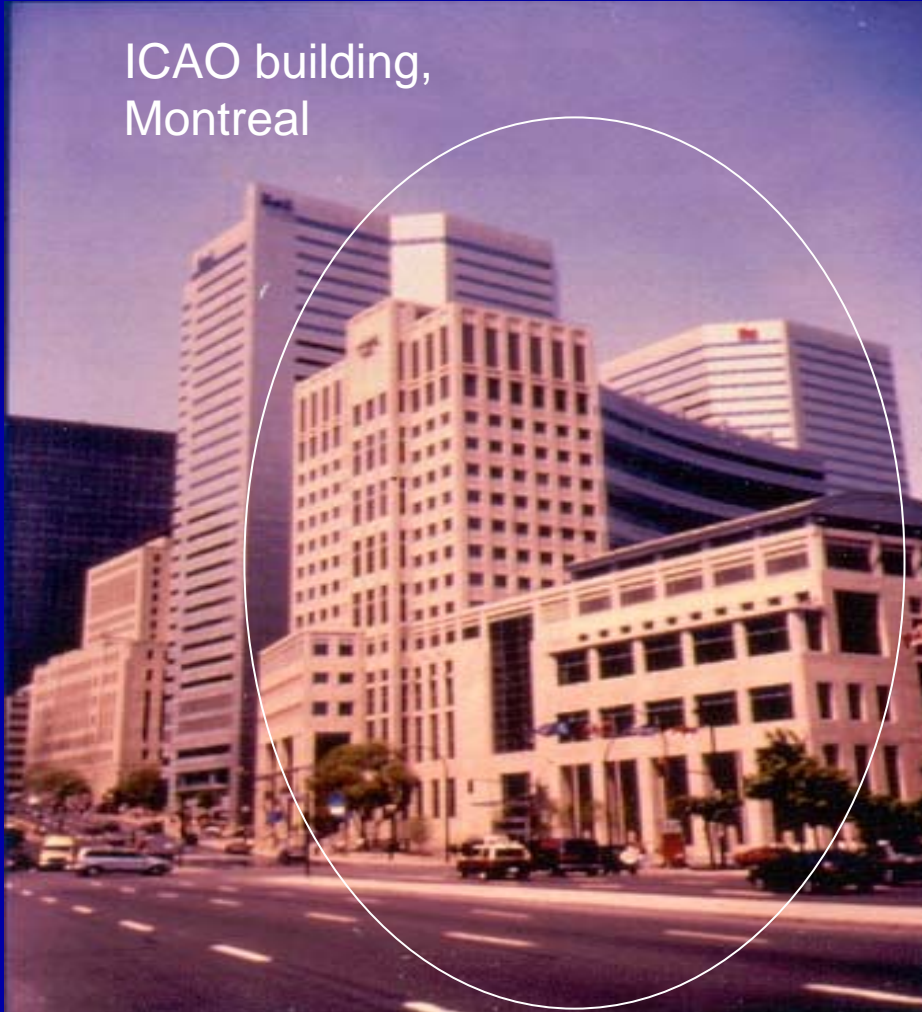
Safety Management and Aviation Medicine

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ICAO

- UN agency
- Montreal-based
- 190 Contracting States
- Sets international safety Standards
- Compliance gives right to enter another State's airspace

Plan

- Examples of fitness decisions
- Does lack of harmonization of medical requirements make any difference to safety?
- Safety Management principles:
 - Monitoring of incapacitations/impairments
 - Monitoring of findings from routine examinations
 - Setting objective performance standards
- Summary

Example 1 – taking an antidepressant

- 35 years
- Taking an antidepressant
- Fit?
 - As pilot
 - As cabin crew



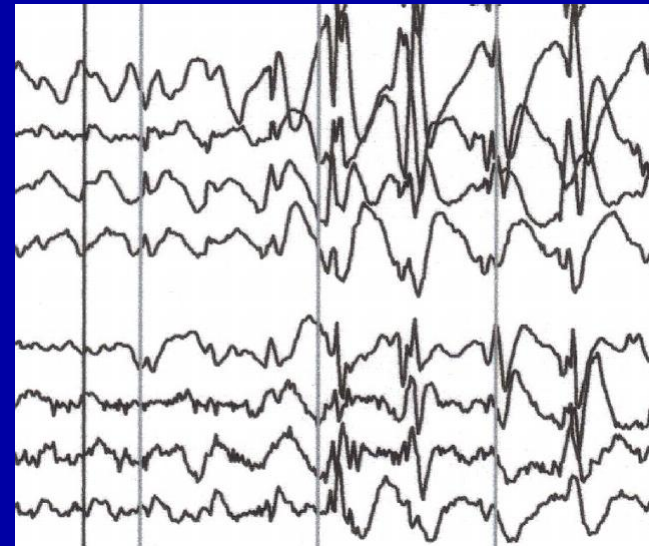
Example 2 – Insulin treated diabetes

- 27 years
- Using insulin to treat diabetes
- Fit?
 - Pilot
 - Cabin Crew



Example 3 – Two seizures separated by 10 years

- 28 years
- Last seizure 5 years ago
- Taking medication to control seizures
- No relevant side effects apparent
- Fit?
 - Pilot
 - Cabin Crew



Answers

- It depends....in which State the fitness decision is made
 - For pilots, and cabin crew

Why different answers?

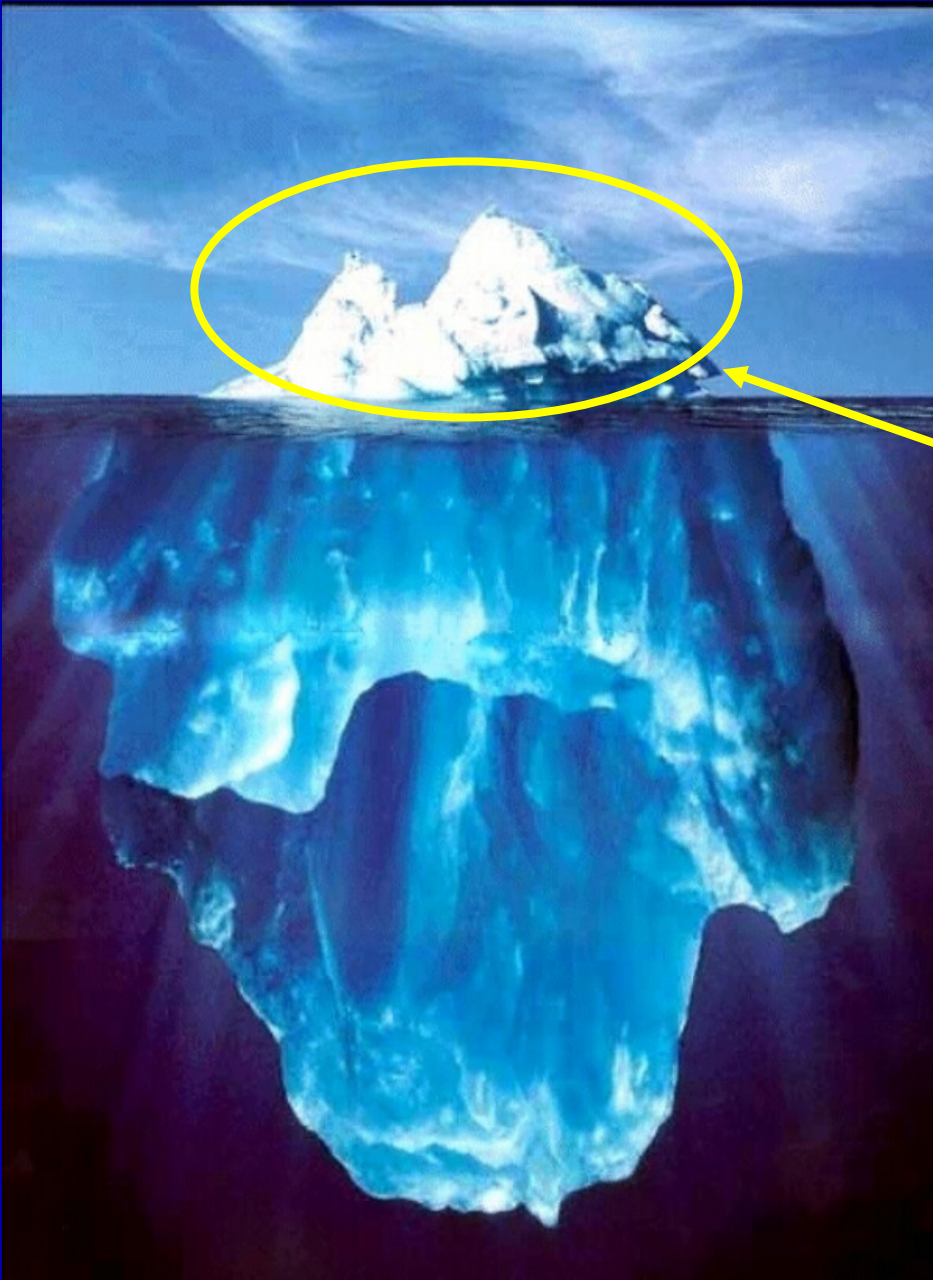
- Expertise of assessors
- Investigation opportunities
- Aviation Medicine Experience of State
- Variability of guidance from eminent specialists
- National culture
- Lack of evidence/scientific approach

Does it make any difference to flight safety?

- How would we know?
- No obvious differences between States based on medical incapacitation aircraft accident rates
- But which States routinely measure in-flight incapacitation rates?
- Which States publish in-flight incapacitation rates?
- What about data for cabin crew?

Safety Management in ICAO

- Includes measuring and monitoring of safety output:
 - Mandatory for aerodrome operators
 - Mandatory for air traffic service providers
 - Recommended for aircraft operators
 - Mandatory from January 2009



“Hazard identification is a wasted effort if restricted to the aftermath of **rare occurrences where there is serious injury, or significant damage.**”

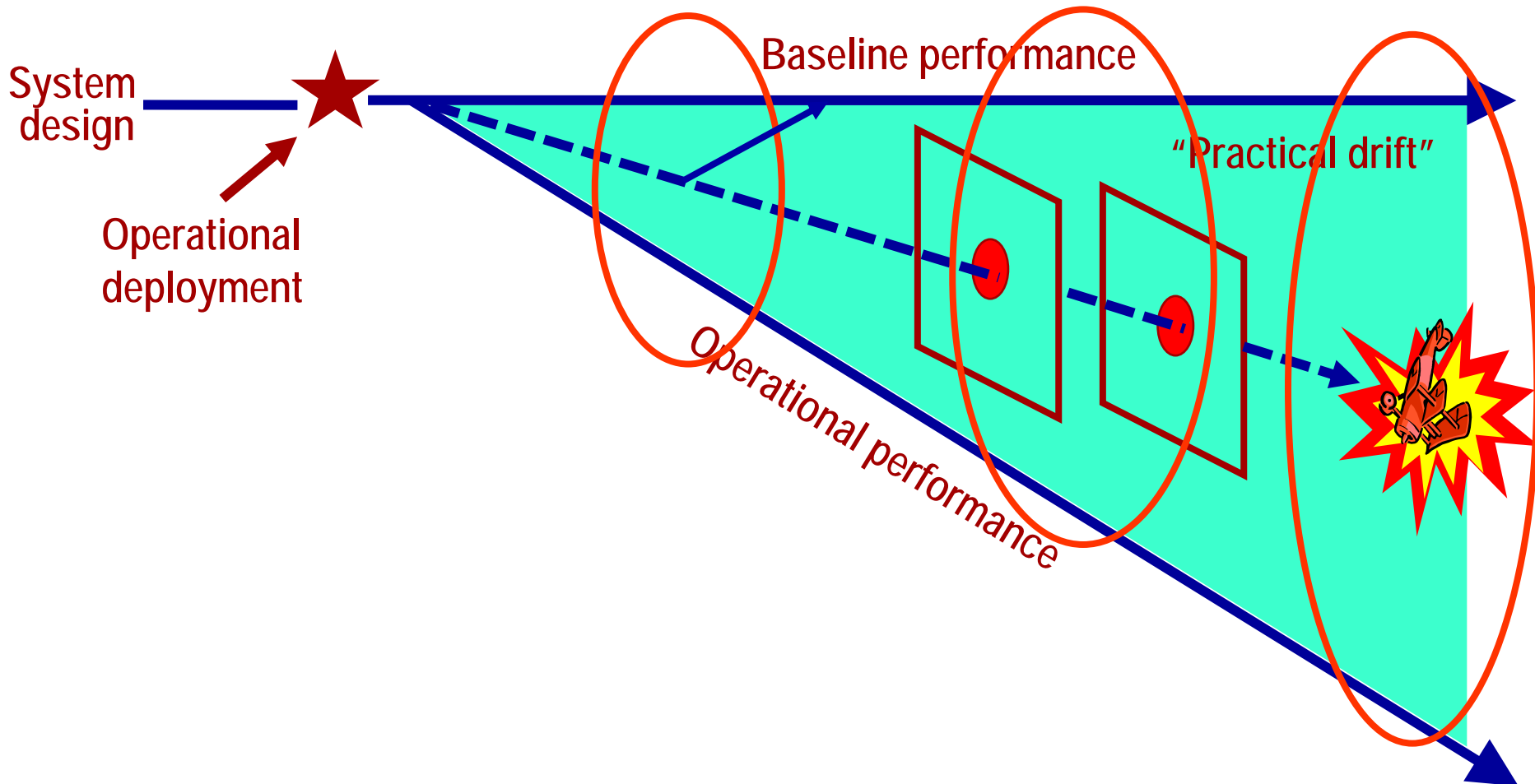
(ICAO SMS course)

Safety Management

- Includes measuring and monitoring (including analysis of results) of deficiencies before they result in an accident

ICAO Safety Management Course

<http://www.icao.int/fsix>



Safety Management in *aviation medicine*

- Currently under review by ICAO
 - In-flight incapacitations/impairments
 - Findings at routine medical examination
 - Flight crew

Safety Management

- Includes setting performance standards and then monitoring to see if they are achieved
- What performance standards are appropriate to cabin crew health?
 - Same as pilots (professional or private)?
 - Same as air traffic controllers?
 - Same as car drivers (professional or private)?

Are cabin crew safety critical?

- ICAO definition

- “Activities where uncorrected errors have an immediate and negative effect”

Performance Standards

- What is an acceptable rate of in-flight incapacitation for cabin crew?
 - Physical
 - Mental

Examples – acceptable maximum risk of incapacitation

- Professional pilots: 1-2% per annum
- Air traffic controllers: 'flexible' 1-2% per annum
- Professional vehicle drivers: 2% p.a.
- Private vehicle drivers: 20-40% p.a.

How to set a performance standard for cabin crew?

- Concerned with *safety*
- Many variables
 - Number of cabin crew
 - Pressurised/unpressurised
 - Fixed wing/rotary
 - Length of flight

Typical 737 with five cabin crew

- Chance of emergency requiring cabin crew action?
 - Decompression
 - Cabin fire
 - Emergency evacuation
- Effect on crew function if one or more were incapacitated at time of emergency

Little data at present to set evidence-based performance standard

- Fitness level of professional pilot 1-2% p.a.
- Fitness level of private driver 20-40% p.a.
- Something between might be reasonable
- Perhaps general occ. health principles will demand greater fitness levels than safety requirements (unlike pilots)
- Individual approach needed
- Need data collection and analysis to consider options – safety management approach

Summary

- Fitness standards for cabin crew are not harmonised
- There is little data currently available to develop an evidence-based acceptable risk
- More data, more analysis and discussion is needed

Advice from the wise in cases of lack of data...?

➤ “When in doubt, risk it”

➤ Holbrook Jackson, English author, 1874-1948

➤ “When in doubt, do it”

➤ Oliver Wendell Holmes, American physician & Harvard professor, 1809 – 1894

➤ “When in doubt, don’t”

➤ Benjamin Franklin, founding father of USA, 1706-1790

“When in doubt, make a fool of yourself. There is a microscopically thin line between being brilliantly creative and acting like the most gigantic idiot on earth. So what the hell, leap.”

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