

Safety Management in Aviation Medicine

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Lima, Peru, March 2009

Plan

- What is 'safety'
- Acceptable level of aeromedical risk
- Organizational accident
- Risk management
- Measuring and monitoring
- New ICAO Recommended Practices

What is safety?

- Zero accidents?
- Error avoidance?
- Regulatory compliance?

- What is aeromedical safety?
 - Zero in-flight incapacitations?
 - Zero medical cause accidents/incidents?

Proposal:

- **Controlled** risk and **controlled** error are acceptable in an inherently safe system.

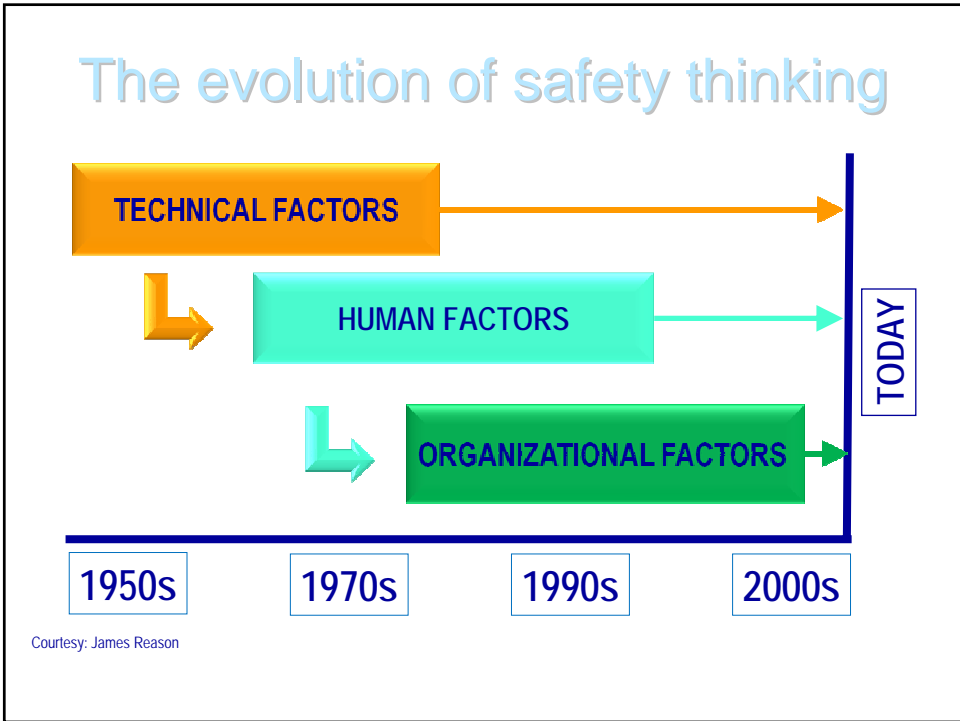
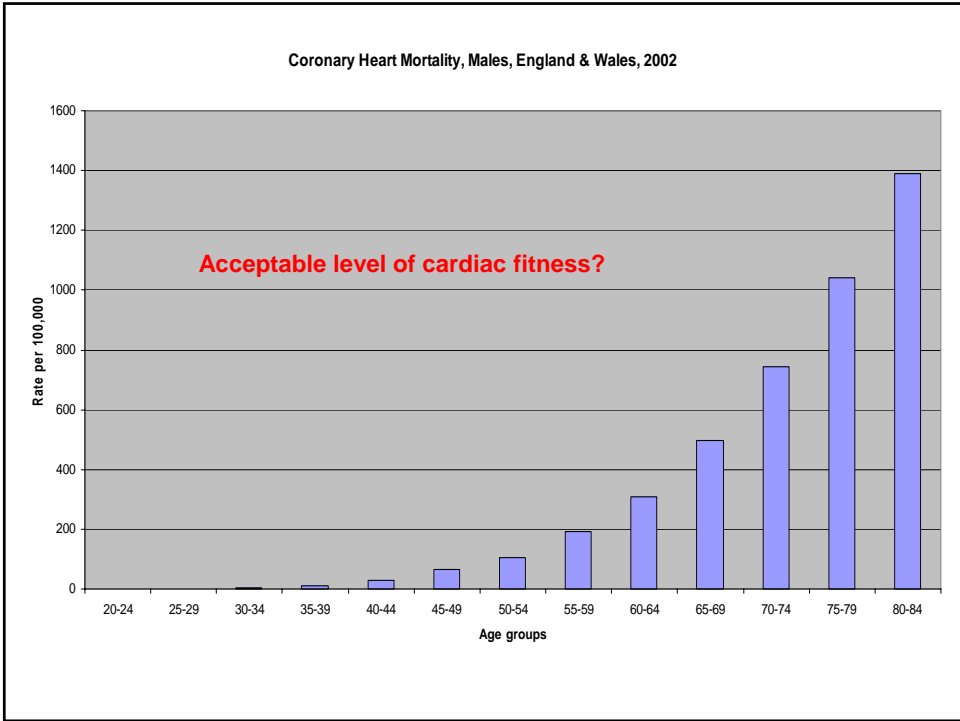
- How might we mitigate the risk to flight safety from in-flight incapacitation?

Concept of safety (Doc 9859)

- **Safety** is the state in which the risk of harm to persons or property damage is reduced to, and maintained at or below, an acceptable level through a **continuing process** of hazard **identification** and **risk management**.

Acceptable level

- What is the acceptable level with respect to medical fitness?
 - Zero incapacitations per year?
 - 1 incapacitation per year?
 - 10....or 100...
- How fit is 'fit enough' for Class 1 certification?



Organizational factors

- Policy-making
- Planning
- Communication
- Allocation of resources
- Supervision, etc

Activities over which an organization has a reasonable degree of direct control

‘Organizational Accident’

Factors include

- Poor risk management
- Inadequate qualifications/experience
- Poor morale
- Workforce instability
- Poor ergonomics

- **Acceptance of violations**
(Note - opposite of a safety culture)

Acceptance of violations

- 'A pilot with depression, or taking an antidepressant is unfit'

- What is the chance of a pilot diagnosed depression committing a medical 'violation' and flying when unfit?

ALPA study 1997-2001

- 1200 professional pilots diagnosed with depression who contacted their office:
 - 60% intended to continue flying (without taking recommended medication)
 - 15% intended to continue flying (taking recommended medication) but without declaring such medication
 - 25% intended to declare their medication and cease flying

What is the greater risk?

- Pilots flying when unfit because of depression with or without taking antidepressants?
- OR
- Pilots who are asymptomatic when taking antidepressants flying whilst being carefully monitored?

Note: 'Safety is the state in which the risk of harm to persons or property damage is reduced to, and maintained at or below, an **acceptable level** through a **continuing process** of **hazard identification** and **risk management**'.

How do we know if we are 'doing the right thing'?

➤ Monitor

➤ Measure

➤ Analyse

➤ What???

Measure, monitor, analyse - pre accident events

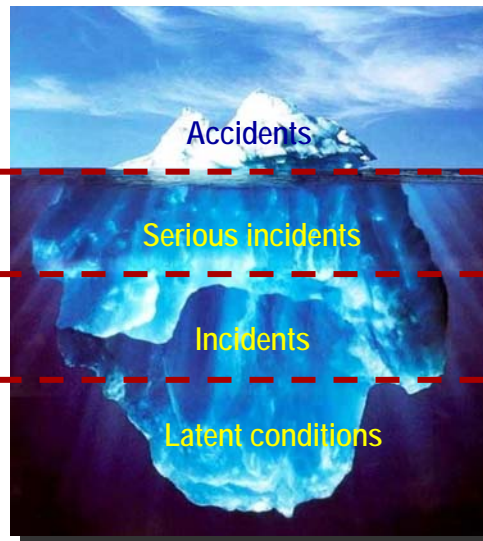
Number of occurrences

1 - 5

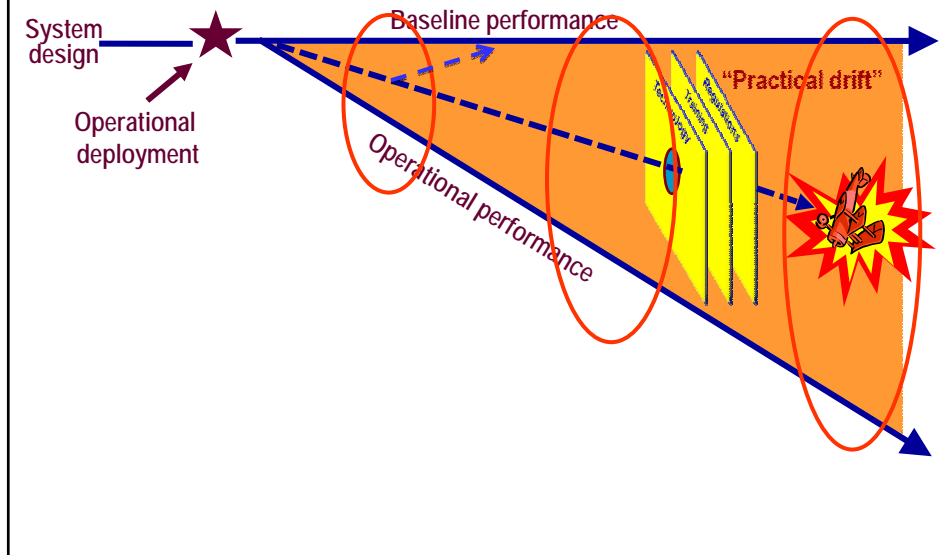
30 - 100

100 - 1000

1000 - 4000



Pre-accident events



Safety management – Eight building blocks

1. Senior management's **commitment** to the management of safety.
2. Effective safety reporting.
- 3. Continuous monitoring through systems to collect, analyse, and share safety-related data arising from normal operations.**
4. **Investigation** of safety occurrences with the objective of identifying systemic safety deficiencies rather than assigning blame.
5. **Sharing** safety lessons learned and best practices through the active exchange of safety information.
6. **Integration** of safety training for operational personnel
7. Effective **implementation** of Standard Operating Procedures (SOPs), including the use of checklists and briefings.
8. **Continuous improvement** of the overall level of safety.

Aeromedical monitoring

1.2.4.2 Recommendation.— *States should apply, as part of their State safety programme, basic safety management principles to the medical assessment process of license holders, that as a minimum include:*

- a) routine analysis of in-flight incapacitation events and medical findings during medical assessments to identify areas of increased medical risk; and*
- b) continuous re-evaluation of the medical assessment process to concentrate on identified areas of increased medical risk.*

Applicable November 2009

Summary

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