

# NTS Training

What can we learn from other industries?

Westwood-Thomas Associates.



**Dr Matthew J W Thomas**

Director / Westwood-Thomas Associates

ph: 0438 808 808

e-mail: [matthew.thomas@westwood-thomas.com.au](mailto:matthew.thomas@westwood-thomas.com.au)

- 
- Quick review of our current practice
  - Walk-through medical simulation
  - Identifying areas we could learn from...

**Our context** / NTS skill development...



What is driving skill-based  
NTS training development?

Training need...

- Changing industry needs (PM - EBT)
- Organisational needs (CV - QF)
- Individual needs (RL - USAF)

# Get real...

- Maximising crew productivity
- Minimising training expenditure
- Regulatory compliance

So how do we innovate within these realistic constraints?

*Do better things with existing  
resources...*

# System Safety / aviation and medicine...





*Aviation accident*

1 in  $10^{-6}$

*Medical Adverse Event*

1 in 10



*Michael Barnes - QLD Coroner*



## OFFICE OF THE STATE CORONER

### FINDING OF INQUEST

**CITATION:** Inquest into the Aircraft Crash at Lockhart River

**TITLE OF COURT:** Coroner's Court

**JURISDICTION:** Brisbane

**FILE NO(s):** Various

**DELIVERED ON:** 17 August 2007

**DELIVERED AT:** Brisbane

**HEARING DATE(s):** 5 April 2007, 08 May 2007, 4-7 June 2007, 18 June – 05 July 2007

**FINDINGS OF:** Mr Michael Barnes, State Coroner

**CATCHWORDS:** CORONERS: Inquest, aircraft accident, pilot training, Civil Aviation Safety Authorities oversight of aviation, crew resource management training, interaction between Civil Aviation Safety Authority & Australian Transport Safety Bureau

#### REPRESENTATION:

**Counsel Assisting:** Mr Ian Harvey  
**Family of Sally Urquhart:** Mr Terry Martin SC (instructed by Gilshenan & Luton Lawyers)

**Families of Helena Woosup, Gordon Kris, Frank Billy, Fred Bowie & Mardie Bowie:** Mr Gerry Mullins (instructed by Cleary & Lee Solicitors)

**Civil Aviation Safety Authority:** Mr Peter Dunning SC with Mr Andrew Luchich (instructed by Blake Dawson Waldron Lawyers)

**Air Services Australia:** Mr Kevin Holyoak (instructed by Ebsworth & Ebsworth Lawyers)

**Australian Transport Safety Bureau:** Mr Peter Rose SC (instructed by Australian Government Solicitor)

**Jepperson Sanderson Inc.:** Mr Ron Ashton (instructed by Minter Ellison Lawyers)



## OFFICE OF THE STATE CORONER

### FINDINGS OF INQUEST

**CITATION:** Inquest into the death of  
Elise Susannah Neville

**TITLE OF COURT:** Coroner's Court

**JURISDICTION:** Brisbane

**FILE NO:** COR/02 2463

**DELIVERED ON:** 12 September 2008

**DELIVERED AT:** Brisbane

**HEARING DATE(s):** 8 April 2008, 25 & 26 June 2008

**FINDINGS OF:** Coroner Lock

**CATCHWORDS:** CORONERS: Inquest – Head Injuries,  
Bunk Beds, doctors working hours,  
emergency department care in regional  
hospital, emergency retrieval, open  
disclosure of adverse health events.

**REPRESENTATION:**

Ms J Rosengren, Counsel assisting the Coroner

Mr DK Boddice representing the State of Queensland

Ms B Betts representing the Department of Emergency Services

Mr Shields of Ryan & Bosscher representing Dr Doneman

Dr Neville representing himself and Mrs Neville

# Medicine / Lessons from research and practice



# **Anesthesia crisis resource management training: Teaching anesthesiologists to handle critical incidents.**

Howard, S., Gaba, D., Fish, K.,  
Yang, G., & Sarnquist, F.

*Aviation Space and  
Environmental Medicine*, 1992:  
63(9), 763-770.

474 Citations

# **Simulation-based training in anesthesia crisis resource management (ACRM): A decade of experience**

SIMULATION & GAMING, Vol. 32 No. 3, June 2001 175-193  
© 2001 Sage Publications, Inc.

**David M. Gaba**  
**Steven K. Howard**  
**Kevin J. Fish**  
**Brian E. Smith**  
**Yasser A. Sowb**  
*Stanford University*

*317 Citations*











UNIVERSITY  
OF ABERDEEN

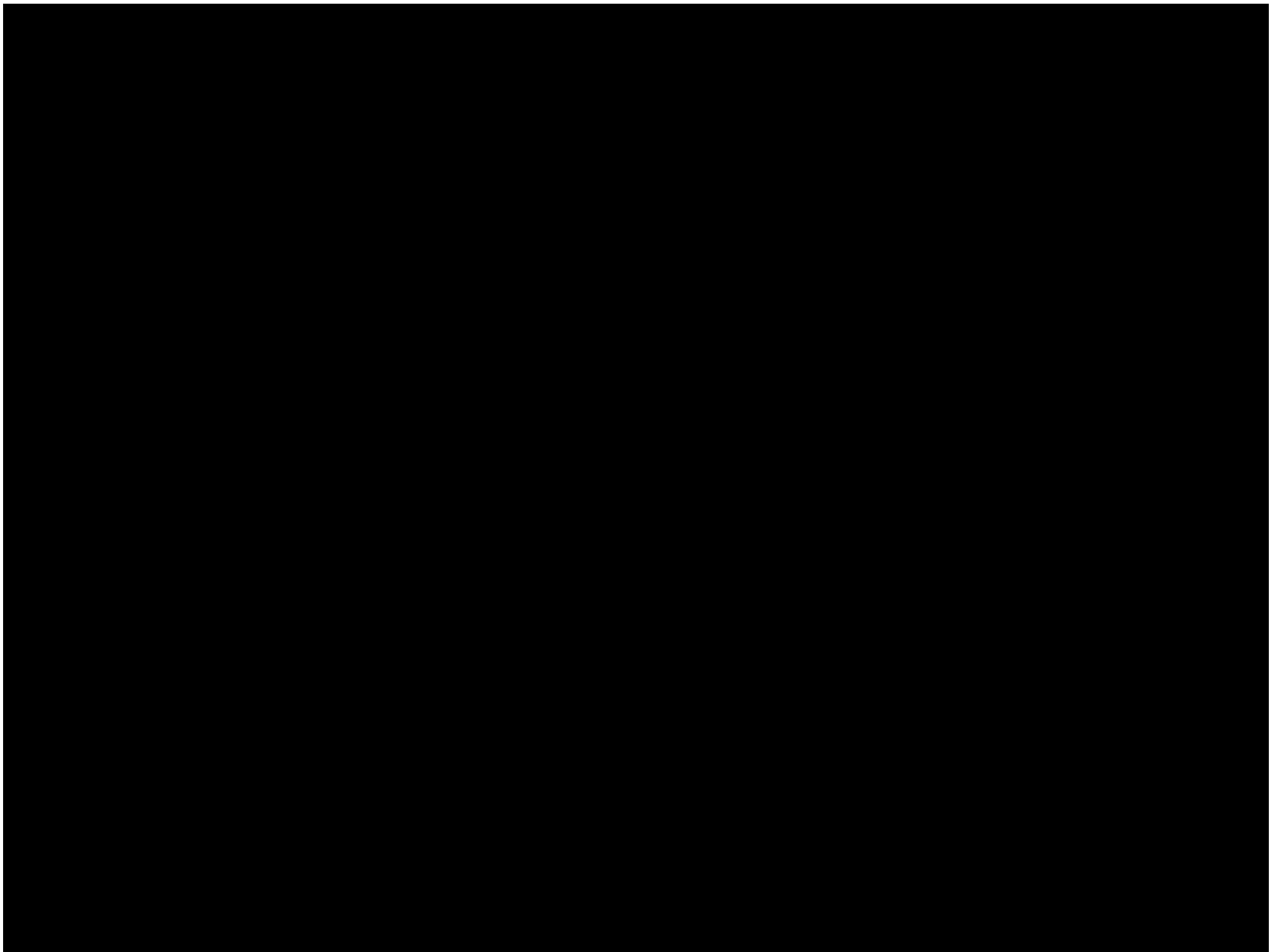


## Framework for Observing and Rating Anaesthetists' Non-Technical Skills



This is the electronic access version of the handbook. To order a hardcopy, please send a cheque for £5.00 made payable to the 'University of Aberdeen', and forward it together with your name and address details to: Rhona Flin, Industrial Psychology Research Centre, School of Psychology, University of Aberdeen, Aberdeen, AB24 2UB.

### Anaesthetists' Non-Technical Skills (ANTS) System Handbook v1.0



**Medicine** / So what do (I think) they do better?





# Briefing...

- Immersive learning
- Professional peer discussion
- The non-technical gets planned





# Short scenarios...

- Cognitive limits on learning
- Enhance recall in debrief



# Debrief...

- Always video-assisted
- Peer review and discussion





# Short scenarios...

- Rehearsal
- Opportunity to get it right



# Part task...

- Construct scenarios around NTS
- Focus on professional development



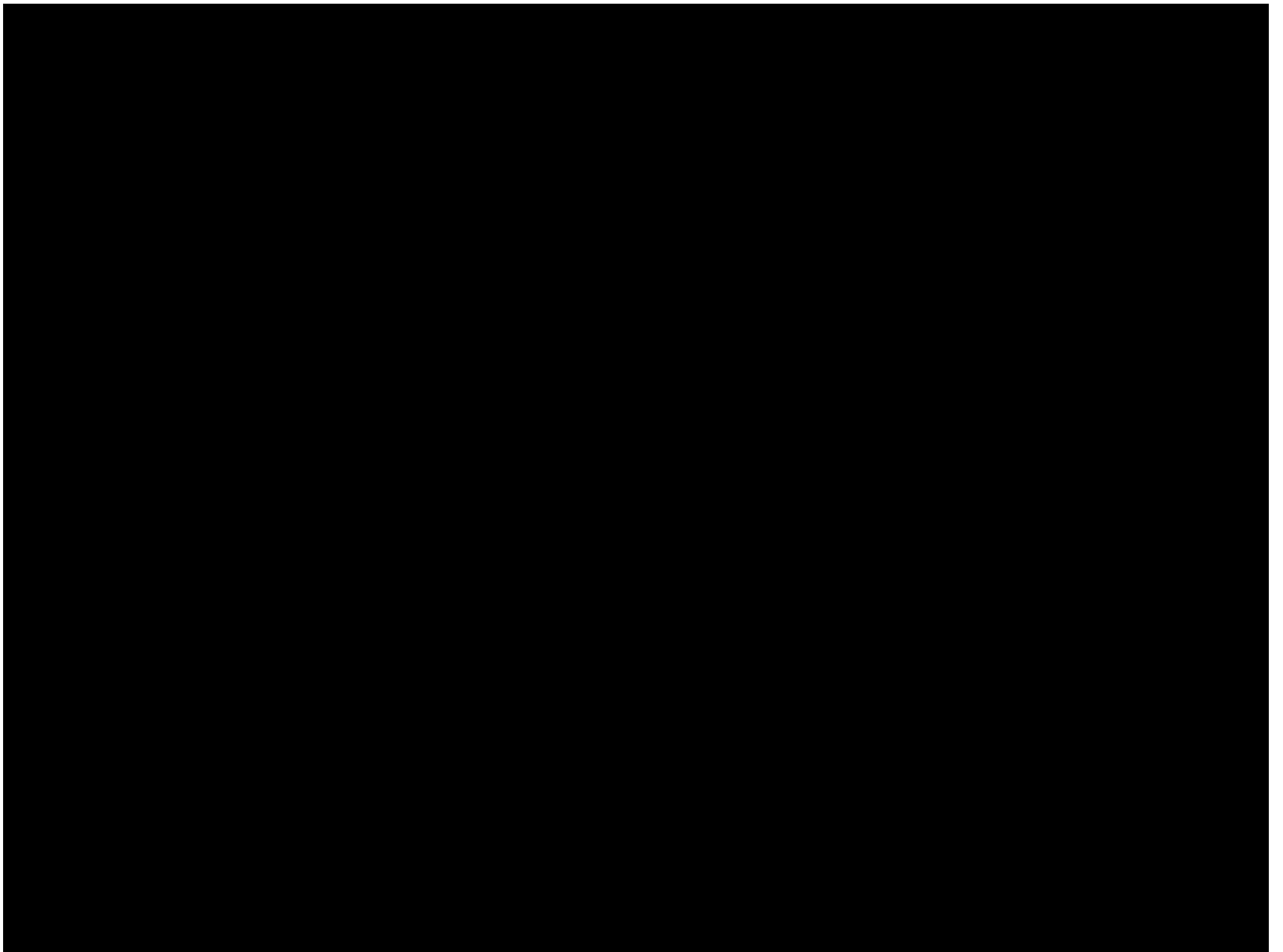
# *Innovate...*

- A truck load of research*
- Evidence based training*



# Rail / Lessons from research and practice











We are not utilising our  
available technology nearly as  
well as we could...

We risk not keeping up with  
other high risk industries...



10<sup>TH</sup> INTERNATIONAL SYMPOSIUM  
OF THE AUSTRALIAN AVIATION PSYCHOLOGY ASSOCIATION



Monday 19 – Thursday 22 November 2012  
Novotel Manly Pacific, Sydney Australia



NEXT GENERATION SAFETY

**19-22 November 2012**

## **Keynote Speakers**

Rhona Flin

Sidney Dekker

Geoff Sartori

Norman MacLeod

## **Pre-symposium Courses**

Fundamentals of Human Factors Investigation

LOSA - Implementation for Small to Medium Operators

Fatigue Risk Management Systems

## **Pre-symposium Masterclasses**

Advanced Human Factors Management

Training and Assessment of Non-Technical Skills

Advanced Issues in Safety Management Systems

The image features a solid black background. On the left side, there are several abstract, hand-drawn scribbles. One set of scribbles is in a vibrant purple color, and another set is in white. These scribbles are composed of overlapping, curved lines that create a sense of movement and complexity. The purple scribbles are more prominent and extend further across the top and left edges. The white scribbles are more contained and appear as if drawn with a light-colored marker or pen. The overall composition is minimalist and artistic, with the text 'Questions...' serving as the central focus on the right side.

**Questions...**