



# **“Dead Men Do Tell Tales”**

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# Data Collection



- Accident & impact information
- DAME/GP records
- Family contacts
- CAA/CASA records
- Airline medical department
- Site information
- Survivors

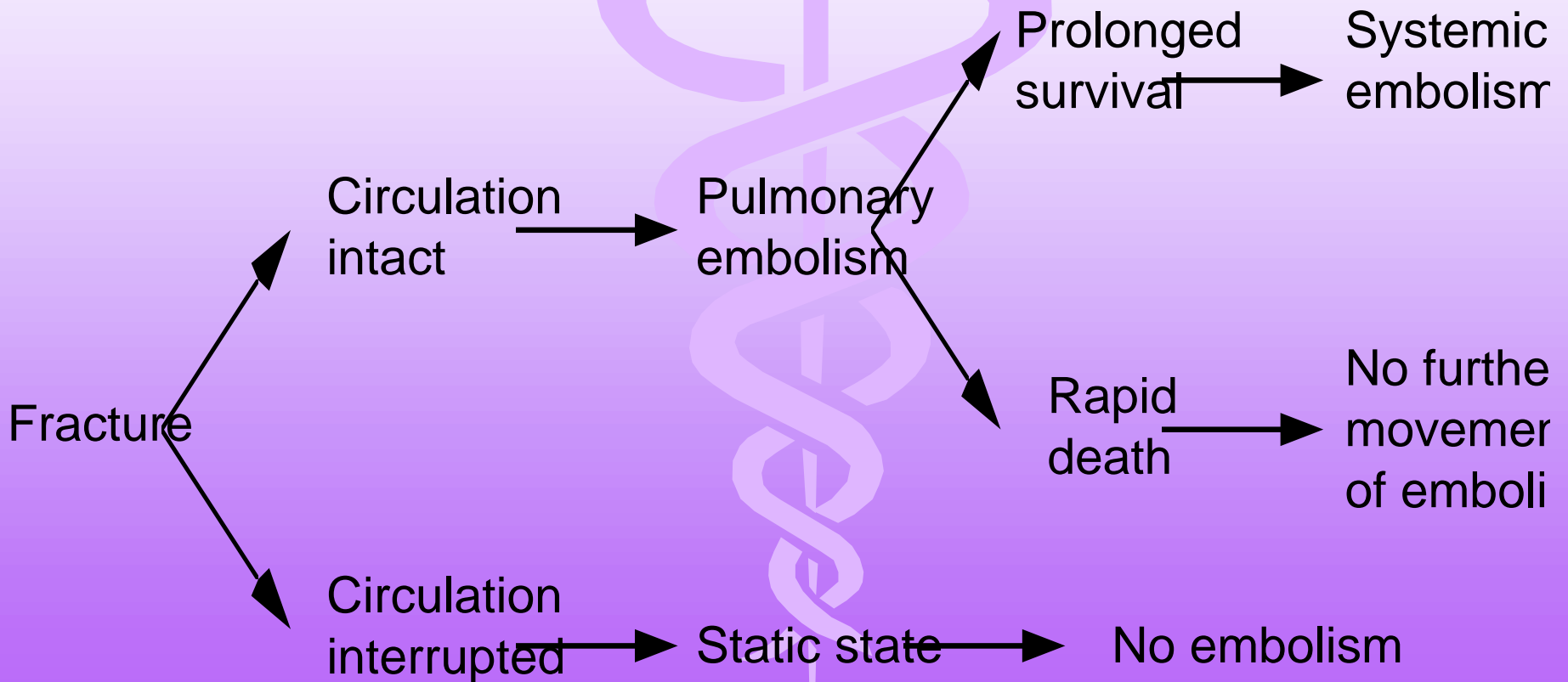
The aim is a “targetted” post mortem

# Accident & Impact Information



- Operational information
- Impact direction & magnitude
- Structural evidence
- CREEP factors
- Cockpit & cabin information
- Survivors

# Tissue embolism



# GP Records



- Confidentiality issues
- Past medical history
- Medication
- Psychosocial factors
- Non-disclosure
- Multiple GPs
- DVI Information

# DAME Records



- Mismatch to CAA/CASA records?
- Latest medical information not filed
- The “lapsed medical” syndrome
- The “while I’m here” note
- Clinical suspicion
- Disclosure issues

# CAA/CASA Records



- Longitudinal history
- Career/flying experience
- ECG and other baselines
- Perceptual measures
- Significant medical issues
- The “overlooked problem”
- Waivers
- Communication styles

# Airline Medical Dept.



- Undeclared problems
- Company wide issues
- Employee Assistance Programmes
- Simulator/Other performance issues
- Pilot incapacitation
- Industrial relations



# Site Information



- Magnitude, direction & pattern
- Body location/position
- Lethal areas
- Cockpit information
- Cabin survivability
- Personal effects
- The “odd man out”

# Survivors



- Operating crew vs. pax
- Hospital access/convenience
- Foreign travellers
- Post crash factors
- Recall issues
- Relevance
- DVI

# Post Mortems



- Clothing & personal effects
- External inspection – witness marks
- Evidence of control interaction/brace
- Identification of medical problems
- ID – Dental/ID marks/DNA
- Toxicology
- “The Unexpected Finding”

# Personal Effects



- Declothing
- Crew prioritisation
- Corroborates ID
- Letters/lucky charms
- Foul play
- Rings and intimate objects

# External Inspection



- “witness marks”
- Impact information
- Protective equipment use
- Cross match to structures
- Tattoos/scars/birthmarks
- Survability

# Control Interaction/Bracing



- Bennett's thumb fracture
- Aviator's astralagus
- Limb fractures
- Laceration shielding
- Voluntary actions
- Confounding factors

# Medical Incapacitation



- NOT – GI, Pain, hypoxia
- RARELY – Stroke, colic
- MAYBE – AMI, Cancer
- ALWAYS – “Bystanders”
- Structural vs. functional

# Dental and ID



- Preservation at site
- Dentures/prosthetics/fillings
- Skin
- Operative procedures
- Records
- DNA



# The “Unexpected Finding”



- ?Causative?
- ?Contributory?
- ?Contemporaneous?
- ?Coincidental?
- ?Confused?
- ?Artefact?

# Toxicology



- Which samples?
- Drug & alcohol “screens”
- Carbon monoxide etc.
- The problem with alcohol
- Normal thresholds
- Imputing an effect

# DNA



- Mitochondrial vs. Nuclear
- Post mortem specimens
- Ante mortem comparisons
- Testing processes

# **Making Sense of it all**



**Making Nonsense Too...**



# Other Sources

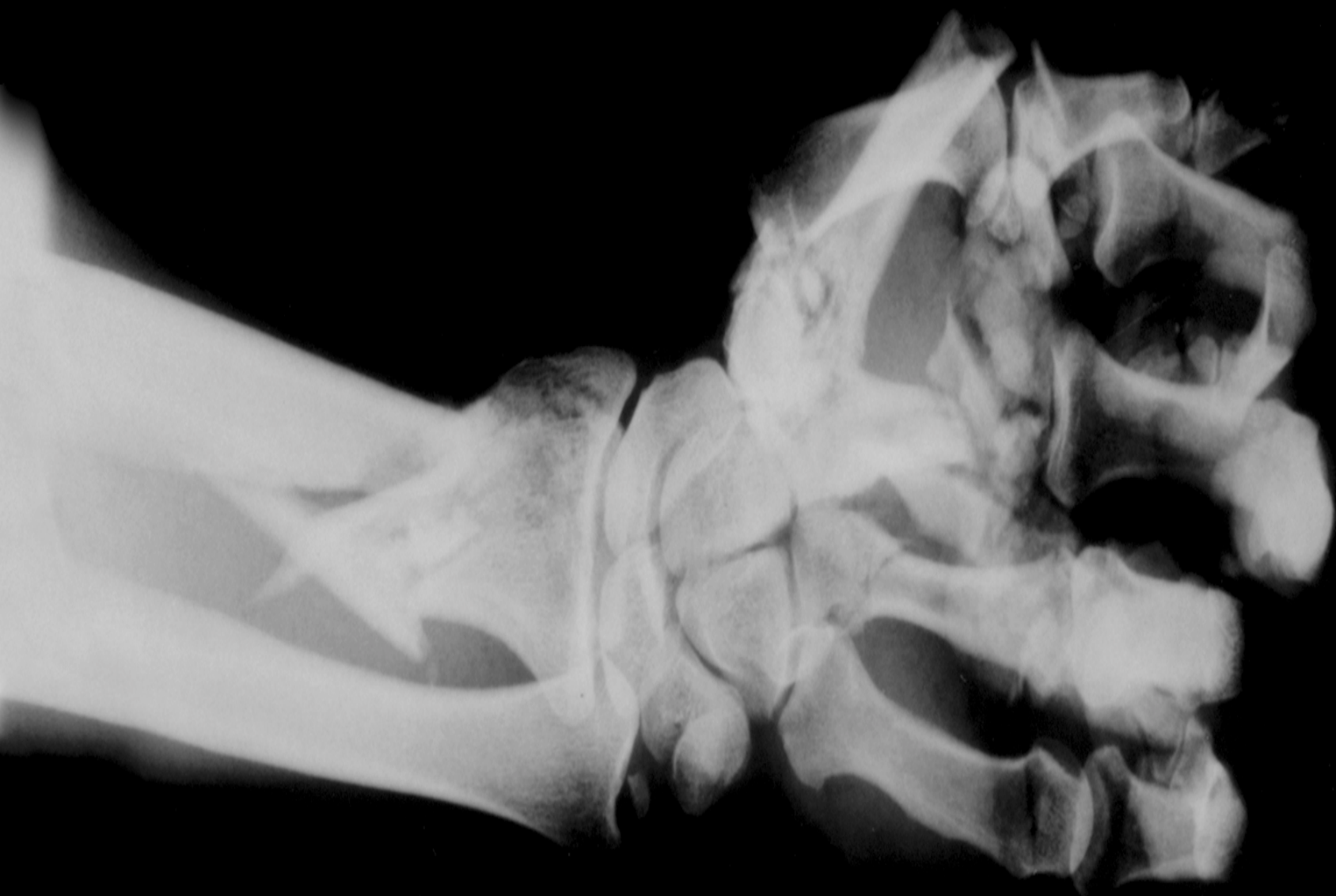


- Social
- Sleep
- Toxicology
- Training
- Attitudes
- Environmental

# X Ray Evidence



- Hands (Bennett's #)
- Forearms
- Feet (aviator's astralagus)
- "Witness" injuries







# Artefacts



- Mimicry
- Simulation
- Superimposition
- Interruption
- Artefactual association

# Causes



- Physical
- Physiological
- Psychological
- Psychosocial
- Operational

# Limitations



- causative
- contributory
- coincidental