Human Factors

Its impact in Cardiothoracic Surgery

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Aims

To understand how we work as teams and how this can break down in stressful situations

To understand how to work together in emergency situations

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Why is human factors training important?

- No-one comes to work intending to cause harm, make errors or threaten patient safety

BUT ...

- Incidents, lapses, mistakes occur daily
- Human factors contribute to an estimated 70% of such incidents

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Paris in the
the Spring

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What went wrong

Loss of situational awareness

– stress highly focussed they lost sight of the bigger picture i.e. time & severity of the situation

Perception and cognition

- actions were not in line with the emergency protocol.

Teamwork

– there was no clear leader. This led to a breakdown in the decision making process and communication

Culture

– Nurses brought the emergency kit to the room, and alerted the intensive care unit. The hierarchy of the team made assertiveness difficult despite the severity of the situation

Challenging Authority

- Repeat
  - ‘You think that we should just keep massaging’
- Question
  - ‘Are you sure we should just keep massaging?’
- Suggest
  - ‘Well we could try an emergency resternotomy’
- Challenge
  - ‘I really think we should reopen’

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Personal level human factors

- To allow effective working to apply your clinical expertise in differing situations
- To manage stress in the team
- To deal with others in the team

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System Level Human Factors

Analytical approaches to incident investigation Assessment of new procedures Equipment and environment design Managing risk

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System Level Human Factors: The Problem

- Perceived benefit for staff, saves time, reduces distractions Assumed absent or minimal consequences.
- Unlikely there will be negative consequencesThe process or rule may not appear to have value.The greater the benefits and lower the likely consequences,

the more common it is for people to ‘migrate’ towards working in ways that they know to be wrong or that break the rules.Over time these ways become normalised and are integrated into the culture

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CRM
(Crisis Resource Management)

- Know your environment
- Anticipate and Plan
- Call for help early enough
- Take a Leadership or ‘active Follower-ship’ role
- Communicate effectively
- Use all available information
- Avoid fixation errors
- Distribute your workload – use all available resources
- Use cognitive aids

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Take a leadership / Active Follower-ship

Leaders

- Decide what needs to be done
- Prioritize
- Assign tasks to specific individuals
- Skills
- Good technical knowledge
- Calm in crisis
- Authoritative but open to suggestions
- “Leadership is a skill, not a role”
- More than one leader in an Open Chest?

Active Followers

- Carry out tasks and report back to the leader
- Make suggestions and shares information
- Actively supports the leader
- Defers to leaders decisions unless clinically inappropriate
- Evaluates whether leadership is appropriate to the situation and responds accordingly

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Avoid Fixation Errors

- This & only this:
  - Persistent failure to revise diagnosis/plan, despite contrary evidence
  - Available evidence interpreted to fit
  - Attention allocated to minor aspect of problem
- Anything but this
  - Persistent failure to commit to definitive treatment
  - Extended search for information, without addressing problem
- Everything is OK
  - Persistent belief that there is no problem, despite evidence that there is
  - Abnormalities attributed to artefact/transients
  - Failure to declare emergency or request/accept help

Use Cognitive Aids

- ABCDE
- Use guidelines and visual aids to provide structure – improve rather than diminish our ability to work creatively & dynamically
- Emergencies are not the right moment to test your memory!
- How will we make this happen in practice?

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Recommendations

- www.patientsafetyfirst.nhs.uk
- www.institute.nhs.uk
- www.chfg.org (clinical human factors group)

- Make it easy to do the right things in your hospital
- Make healthcare ‘user-friendly’
- Use simulation to practice your skills

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