Errors in Thinking
Why we misdiagnose in emergencies
Why this talk?
Do good doctors make silly mistakes?

• In retrospect mistakes seem obvious
• We often use phrases like:
  • “With the benefit of hindsight”
  • “Retro – specto – scope”
• The referring doctor always looks like the idiot.
• Applicable to any doctor who sees an acute, unexpected case.
• Promote an understanding in receiving specialists?
Emergency Centre
Unique and different to all other disciplines

- Unpredictable
- Undifferentiated, unfiltered
- Entire medical and surgical spectrum
- All age groups
- Rapid decision making
- Minimal information
- Decisions often have major consequences
- Emotion/distress/pain/anxiety
- Most junior doctor in the hospital?
Emergency Centre
Unique and different to all other disciplines

• A delay in making decisions can have great implications:
  • Patient care
  • Outcomes
  • Over-crowding
Emergency Centre
Unique and different to all other disciplines

• Decisions are often required to be made QUICKLY.
• Often decisions made utilize:

  • “Gut Feel”
  • “Rule of Thumb”
  • “Heuristics”

• This type of thinking is helpful, but prone to ERROR!
Errors in thinking
Littered with thinking “biases”

• Anchoring Bias
• Search Satisfying Bias
• Availability Bias
• Confirmation Bias
Errors in thinking
1. Anchoring Bias

• The tendency to:

Fixate or anchor on the salient features of the patient's initial presentation,
At an early point of the examination.
Fail to adjust even in the light of later information.
Errors in thinking
1. Anchoring Bias

- 23 yr man
- Works as a carpet cleaner
- No previous medical history
- Tall and thin
- Smoker
- Presents to EC with chest pain
Errors in thinking
1. Anchoring Bias

- Chest pain is worse on coughing and deep breathing.
- O/E
  - Apyrexial
  - Undistressed with stable vitals
  - Chest is clear
- A: ? Pneumothorax
- P: CXR
Errors in thinking
1. Anchoring Bias

No pneumothorax – discharged with anti-inflammatories...
Errors in thinking
2. Search Satisficing

• Stop looking for an alternative or co-existing diagnoses when we an abnormality is found.
Errors in thinking
2. Search Satisficing

• Young male
• Brought into EC after a run in with a motor vehicle
• Limping and not unwilling to use the RIGHT leg.
• O/E
  • Stable
  • Obvious deformity to the right upper leg
• A: Femur Fracture
• P: X-rays
Errors in thinking

2. Search Satisficing
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Search Satisficing

• Urine Dipstix
  • Attributing symptoms to a mildly abnormal urine result

• Gallstones on Ultrasound
Errors in thinking
Search Satisficing

• Elevated Blood Pressure
  • Blaming hypertension for headaches
  • Blaming hypertension for epistaxis.
  • Blaming hypertension for dizziness.

• Abnormal Coronary angiography as a cause for chest discomfort
Errors in thinking
2. Search Satisficing

- Classically – the most missed fracture?

The second fracture....
Errors in thinking
3. Availability Bias

• Tendency to judge things as being more likely or frequently occurring if they readily come to mind.

• eg: a recent experience with a disease inflates the likelihood to diagnose a new case with the same disease.

• Every patient is an oncology case?
• Specialist bias
• Emergency Practitioner/GP Diagnosis Pool
Errors in thinking
4. Confirmation Bias

• Tendency to look for confirming evidence to support the diagnosis.
• Down play, ignore or do not actively seek evidence that proves the contrary
Errors in thinking
4. Confirmation Bias

• 81yr man
• ER24 called with a collapse
• Initial thought – cardiac
• Upon arrival patient is breathing and has pulse – stable
• ECG shows ST elevation
• Chooses to bypass usual hospital and come to dedicated cardiac centre.
Errors in thinking
4. Confirmation Bias

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Errors in thinking
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• However…
• Upon history – 4/52 ago – craniotomy for subdural
• 3/7 subtle decrease in general functioning
• Caught toe on coffee table
• Fall to occipital area.
• ECG

• CT – Massive subdural
Errors in thinking
Overcoming Bias

• Thinking about thinking.

• Stepping back and re-thinking automatic responses.

• Cognitive Forcing strategies.
  • Algorithms
  • Flow Charts
Errors in thinking
Overcoming Bias

• Meta – Cognition.
• Mortality and Morbidity review, returns/comeback analysis
• Adopt a “I know what it’s not, I do not know what it is…” approach (avoid the search satisfying bias)

• Lateral creative and innovative thinking in every patient.
Candle no fire! Happy Lion

Happy Birthday to you 🎂
THANK YOU

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