“In the dark” Diagnostic Error

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Conflicts of Interest:

Provided opinion on clinical negligence cases supporting surgeons and solicitors since 2001.

Member of TMLEP Panel of Experts

Work for NHS Lothian and Private Sector

Scottish Hospital Consultants Cttee BMA elected

Royal College of Radiologists UK council member elected

Received lecture honoraria (GSK, Pfizer, Canon, GE etc)

Six months of chemo for woman who DIDN'T have cancer!

What is Radiology?

- Diagnostic Imaging
- 70-80% dx made or confirmed
- Imaging and Procedural ie interventional or IR
- IR is human "dyno-rod" or pinhole surgery
- Radiologists are doctors
- Critical role in all spheres
- Victims of own success

Who is who?

- Roles – who does what?
- Radiologist vs Physician vs Surgeon vs GP
- Medical staff vs technical staff
- Role extension
- Appropriate & safe vs extreme, unsafe and unproven
- Vertical versus horizontal competencies
  - How do tests of negligence apply as no medical case law
    - Doctor vs doctor
    - Nurse vs doctor
    - Technician vs nurse
    - Society of College of Radiographers website very helpful
    - Consultant Radiologist vs Reporting Radiographer / technician equally safe: courageous statement

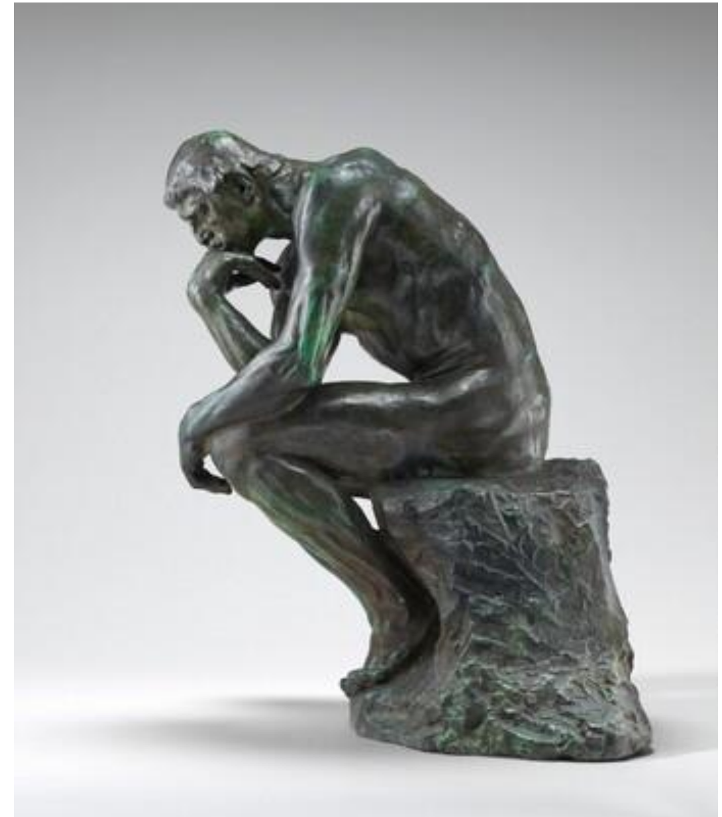
UK - Poor man of Europe?

- UK has fewest ie 6 MRI units per 1m populn
- MRI activity is 56 scans per 1000 populn
- 26% of MR units older than 10 years
  - Recommended life 7-8 years
- Radiologists 4 per 100 000 populn (ave 9.5)
- Govt solution – extreme role extension
  - “Physicians for the great and the good, technicians for the great unwashed”
  - Cheaper: NO
  - Increased errors
  - Increased litigation

Great and good vs Great unwashed

Plan today

- Errors
  - Failure to detect
  - Failure to diagnose
  - Failure to advise
  - *Failure to consent*
- Some cases
- What is ordinary care & competence?
- Acceptance of reality
- Future

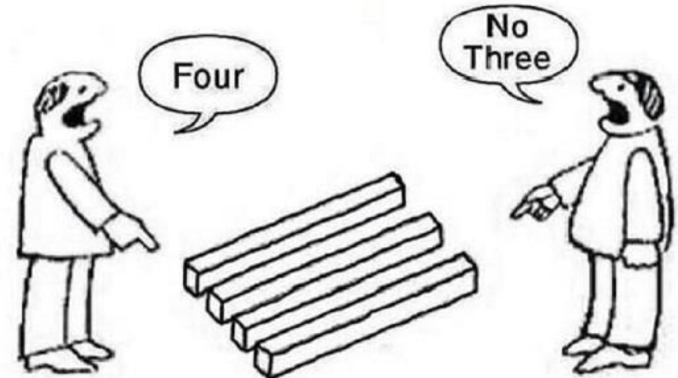


Historical Error

- “Accuracy in radiological interpretation can prove to be an illusory goal”*
- Error then blame
  - Incompetent
  - Junior
  - Inexperienced
  - So punish
- But no – it is more nuanced**

*Maskell G, BJR 2019 **Garland L, Radiology 1949

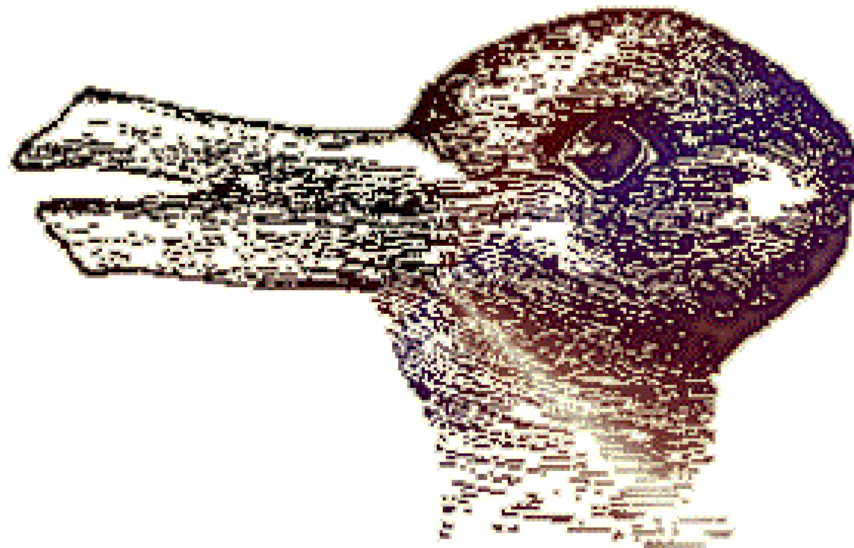
Everyday Error



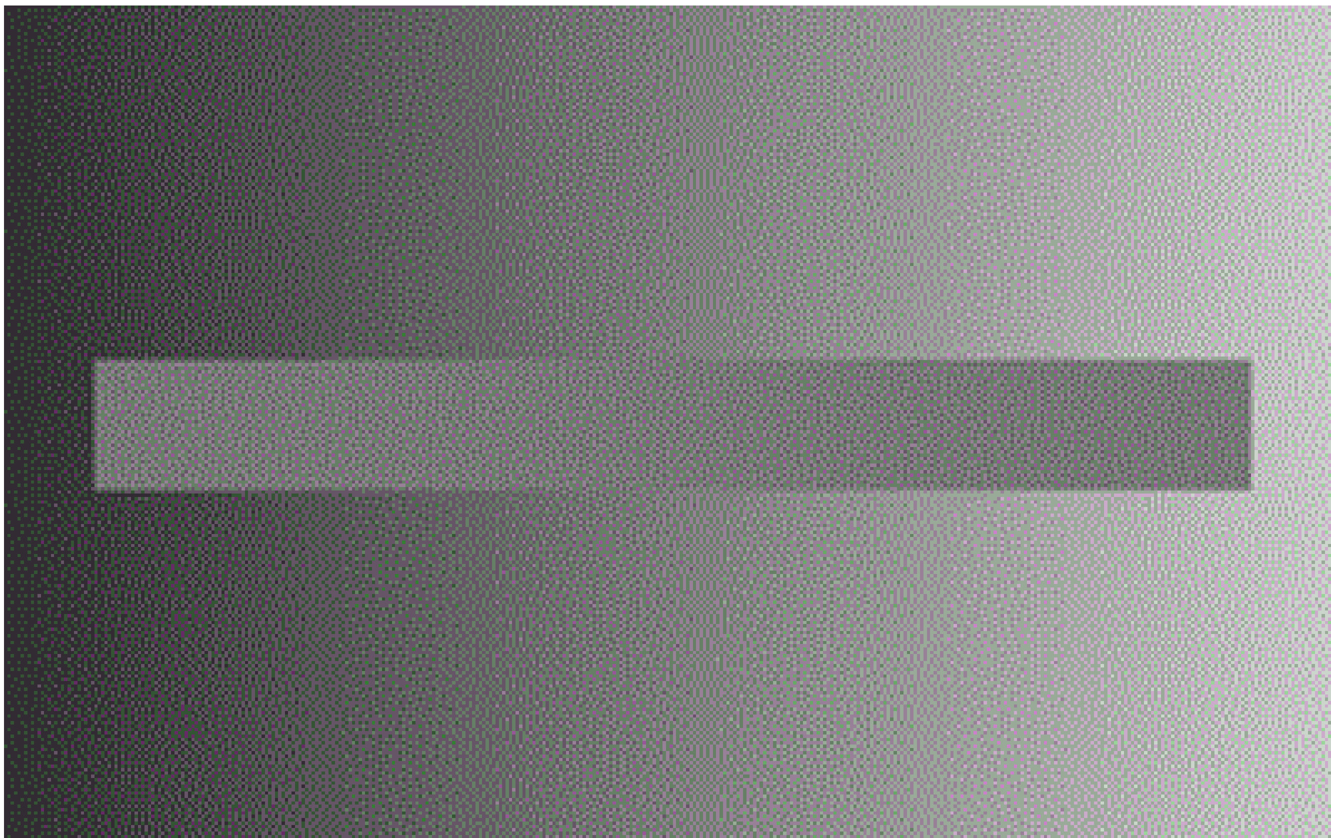
- 5% error rate XRs
- 30% error rate CT & MRI
  - Intra observer disagreement
- Now storage is digital so recall
- Now “duty of candour” GMC*

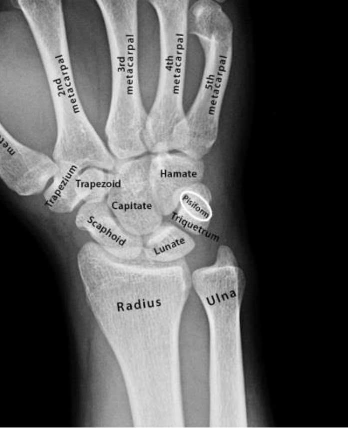
*Berlin L. Reporting the "missed" radiologic diagnosis: medicolegal and ethical considerations. Radiology. 1994;192:183–187.

What is this?



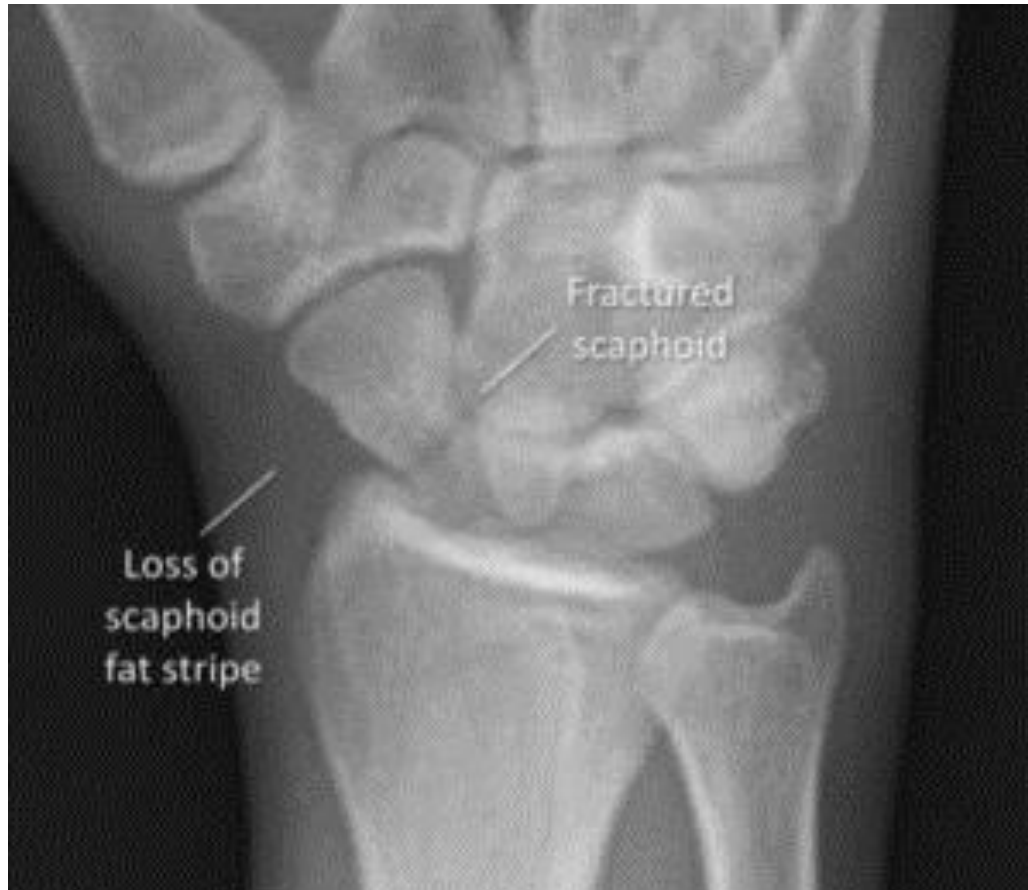
Greyscale con?

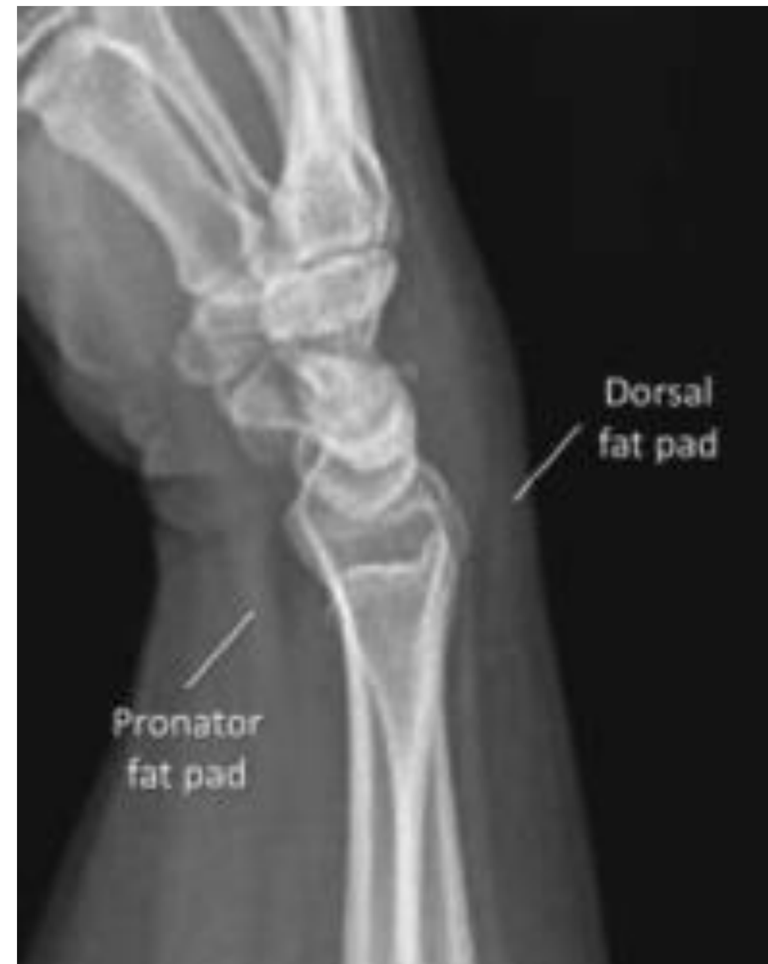




Fractures

Fat stripes – a fracture is merely the bony manifestation of a much greater soft tissue injury



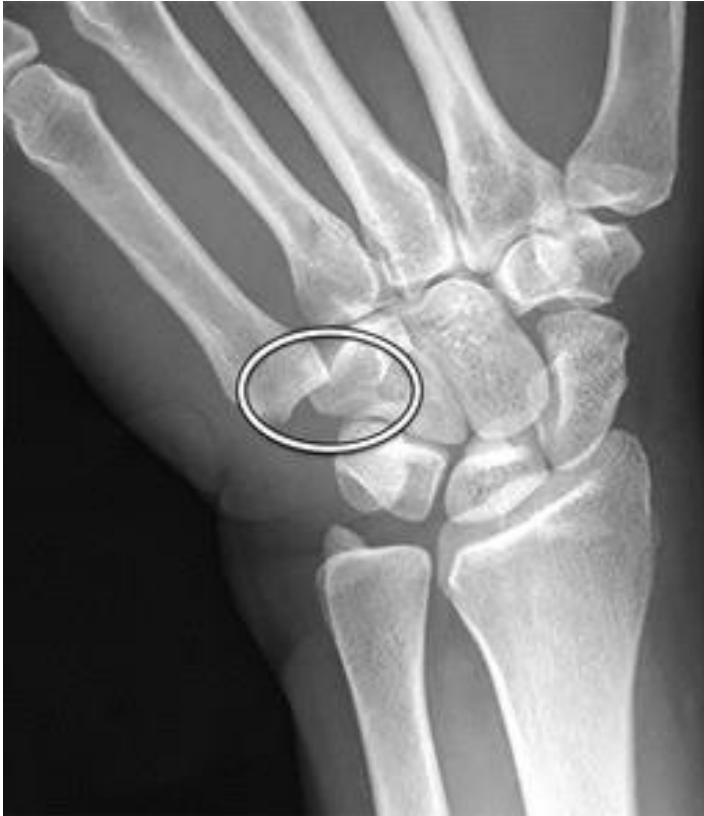


Observer or Perception Errors

- Failure to detect
- Scanning error
- Recognition error
- Decision making error
- Satisfaction of search

- multiple psychophysiological factors
  - level of observer alertness
  - observer fatigue
  - duration of the observation task
  - any distracting factors
  - conspicuity of the abnormality etc

Films never seen by radiologist



- Orthopaedic clinic
- Several visits
- Occ - roofer
- Pt complains of pain
- Eventual diagnosis made by radiologist at referral for unnecessary MRI
- Settled by NHS

Interpretation Errors

- clinical history
- previous studies
- index of suspicion
- presence of an abnormality
- reading room environment
- level of vigilance
- hanging protocol

Error – any science?

- Psychology*
- Economic behaviouralists
- Neuro optics
- Medicine

- "Focused attention" is considered a fundamental feature of the human brain. It is regarded as an inherent limitation of the human "search engine"; therefore, inattentional blindness cannot be entirely prevented

- Dual process theory
- Decision making
- Evaluation vs heuristic short cuts
- Predictable traps
- Cognitive biases
- Awareness of fallibility

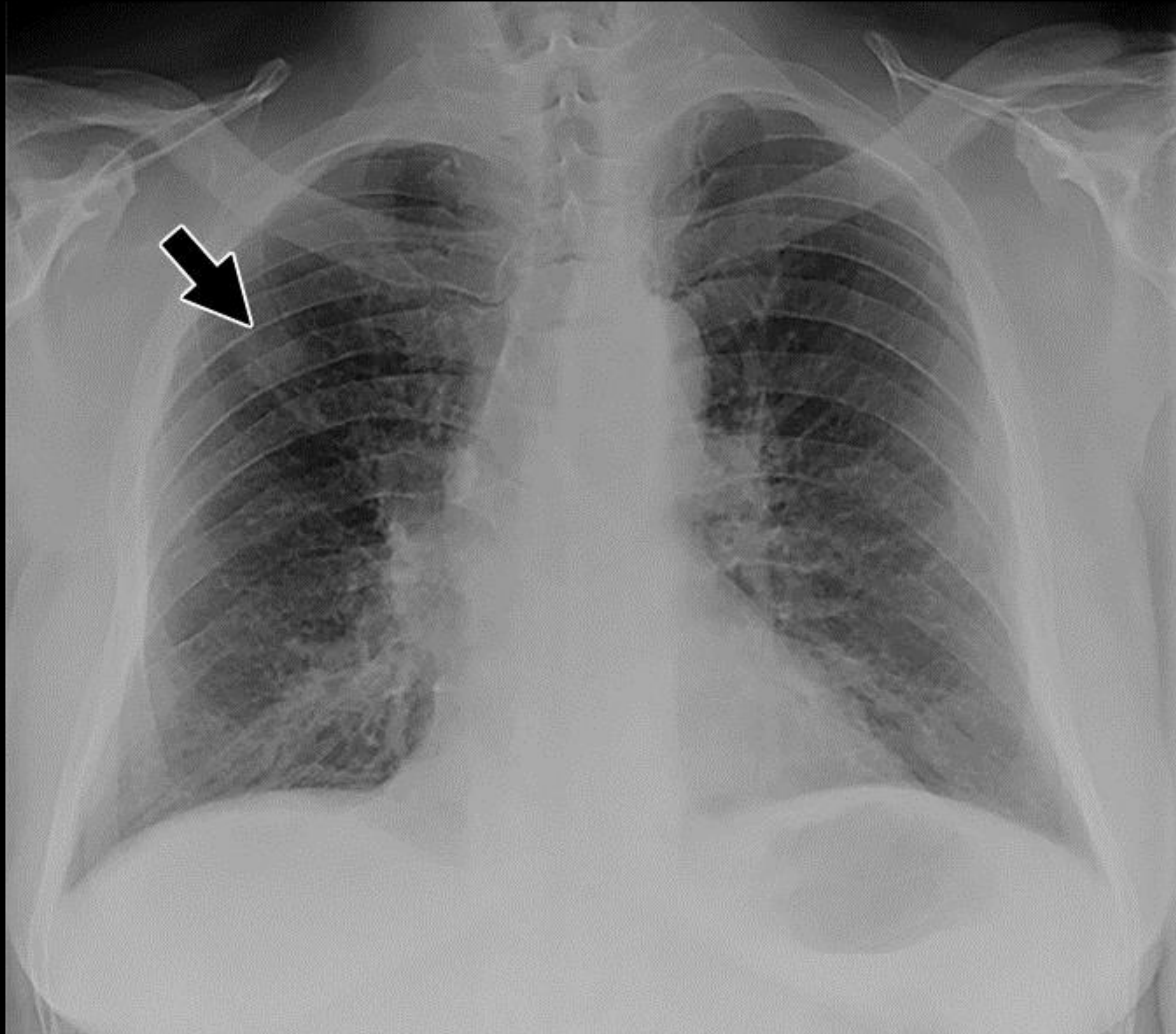
- Radiologists use visual detection, pattern recognition, memory, and cognitive reasoning to synthesize final interpretations of radiologic studies

*KahnemanD & Tversky A

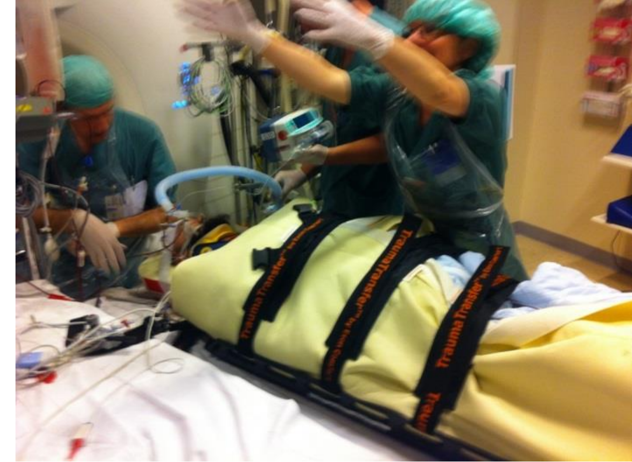
Failure to communicate

- Failure to suggest next step or test
- Confirm or refute the dx?
- Must document in formal report
- Time, date, person, method eg phone
- Advice given?
- No record, limited defence.
- Still no auto email

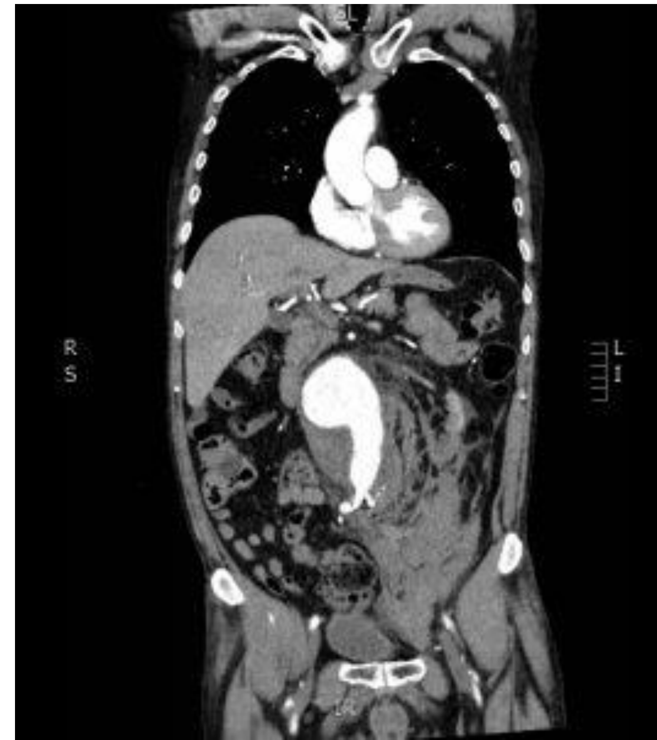
Missed cancer



Missed trauma



- 30% of cases
- Impact versus recoil position
- Lots of images (XRs and or CTs)
- Junior staff inexperienced
- Outsourcing to faraway places
- Disjointed care
- Satisfaction of search
- Predictable patterns?
- Snapshot versus serial changes



Test of Negligence

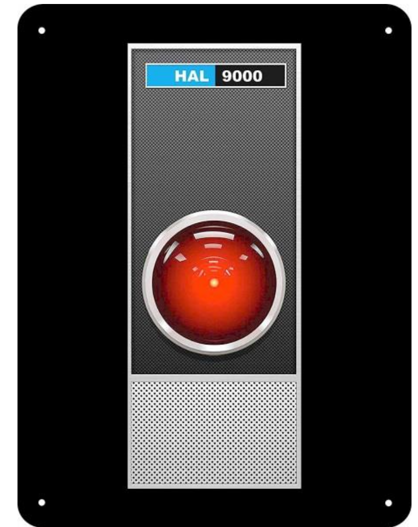
- Hunter vs Handley 1955 - Lord Clyde
  - such failure as no doctor of ordinary skill would be guilty of if acting with ordinary care
  - 'To establish liability by a doctor where departure from normal practice is alleged, three facts require to be established. First of all it must be proved that there is a usual and normal practice; secondly it must be proved that the defender has not adopted that practice; and thirdly (and this is of crucial importance) it must be established that the course the doctor adopted is one which no professional man of ordinary skill would have taken if he had been acting with ordinary care'
  - Only if a practitioner has failed to meet the minimum acceptable practice, will they be considered to have acted negligently. A failure to meet the best practice possible, or gold standard, is not enough. If the practitioner can show that the course of action he or she chose is supported by a body of respectable opinion within the profession, then negligence may not be established.

My Approach

- Leave clinical issues to clinical care doctors
- Stick to the radiology - remit
- What is the ordinary standard of care vs expert?
- Formulate my “expert opinion” initially on DICOM images and ALL case file data
- Ask opinions of 10 local colleagues with FRCR
    - Blinded to details
    - Limited clinical data
    - Agree / Disagree / Equivocal
- Report for the Court
    - https://www.justice.gov.uk/courts/procedure-rules/civil/rules/part35

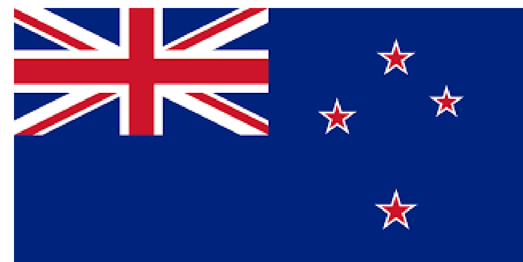
The Future

- AI – friend or foe? (Kubrick)
- Support productivity
- Or act as second reader
- BUT
- Huge dissonance between
  - Public and medical false expectations
  - Reality of frequent & inevitable radiology error
  - Mass education vs mass litigation?



Reality

- No test is 100% accurate
- No radiologist is 100% correct all the time
- Error is part of our business
- Judgement: ordinary care by ordinarily competent staff
- Blame is unhelpful for staff and public
- No fault compensation as per NZ?



Six months of chemo for woman who DIDN'T have cancer!

- 6 fig payout