The “Pan-scan” should be the standard of care for all major trauma patients

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NB

- Standard of care
  - Degree of prudence and caution required of a person who is under a duty of care
- “major” trauma patients

Usually means “whole body” CT

- Rapid
- Multislice
- Head/neck/trunk

Major Trauma CT protocol

- C Smith et al. EMJ (BMJ.com) June 2010
- University Hospitals of Coventry and Warwickshire

Indications for Major trauma CT

- ***Penetrating trauma***
- Gunshot wound (including air rifle)
- Blast injury (bomb / explosion)
- ***Blunt trauma***
- **Combined** velocity ≥ 50 km/h
- Motor vehicle crash with ejection
- Motorcyclist or pedestrian hit by vehicle >30 km/h
- Fall > 3 metres
- Fatality in the same vehicle
- Entrapment > 30 minutes
- Crush injury to thorax / abdomen

Results

- 87 of 114 eligible patients received a Major Trauma CT
- 17 unsuspected injuries were found
- 3 needed immediate management

Reduced time to OR - 105 vs 120 mins

- Whole-body multislice computed tomography (MSCT) improves trauma care in patients requiring surgery after multiple trauma

- T E Wurmb et al EMJ. Online July 2010
- University Hospital of Wuerzburg

Reduction in mortality risk

- German hospitals contributing to registry of German Trauma Society
- 1494 of 4261 (32%) given whole body CT
- **SMR based on TRISS was 0.745 (95% CI 0.633–0.859) for patients given whole-body CT versus 1.023 (0.909–1.137) for those given non-whole-body CT (p<0.001).**

- Huber-Wagner et al. Lancet April 2009
- Munich

Routine Panscan in blunt trauma

- 1000 pts 592 no signs
- **Results:**
  - Clinically significant abnormalities were found in
    - 3.5% of head CT scans,
    - 5.1% of cervical spine CT scans,
    - 19.6% of chest CT scans, and
    - 7.1% of abdominal CT scans.
- Overall treatment was changed in 18.9% of patients based on abnormal CT scan findings.

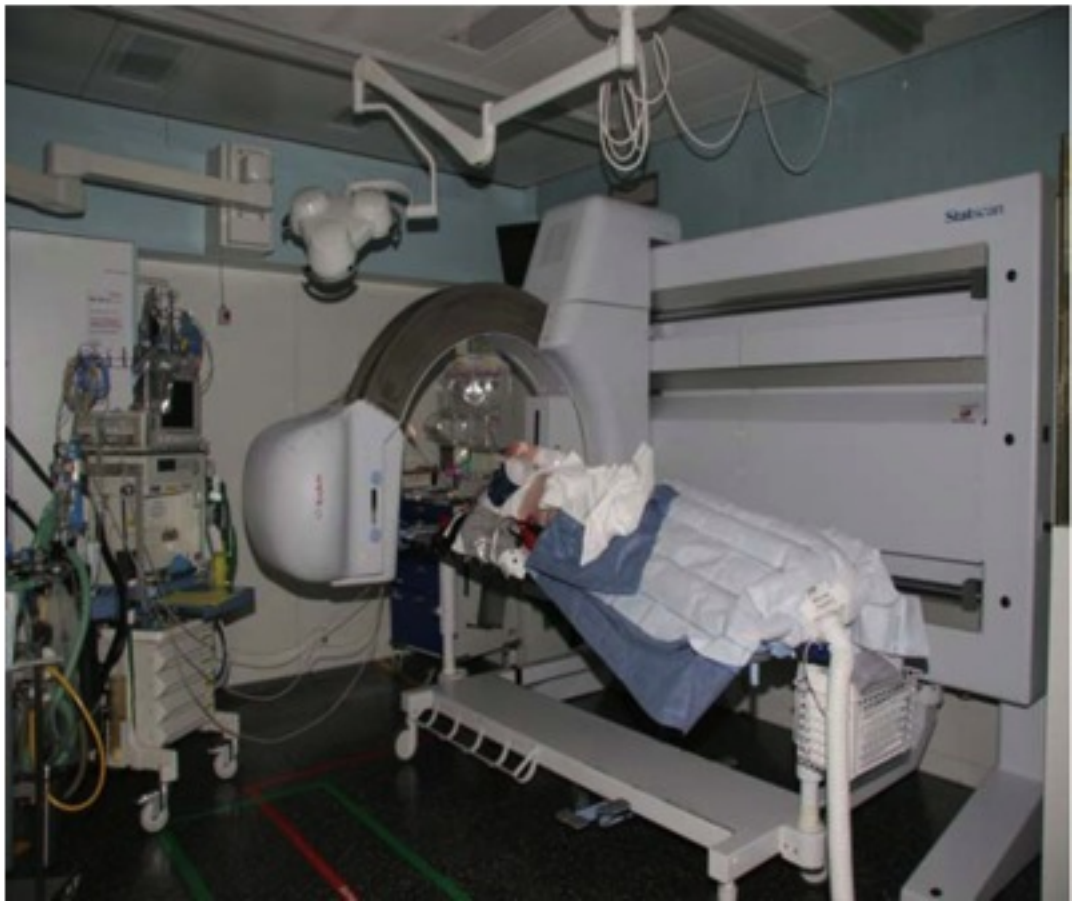
  – Salim et al. Arch Surg 2006

What about the radiation?

- Dispute over dose
  - 12-16 mSv
  - Some claims up to 140 mSv
  - Increase in background lifetime risk of fatal cancer from 25% to 25.05%
  - Significantly less in a pan-scan than in sequential scans of body regions

Alternative to CT

- Lodox STATSCAN



Additional views

- Lateral C-spine