IRMER 2000 [PATIENTS] [DRLs]

- All practices involving radiation should be “justified” by the “practitioner” who selects the appropriate test
- All should be “optimised”
  - Not max quality or minimum dose – ALARP
  - DRL set nationally, local DRLs must not go above the national level
  - No legal limits, just diagnostic reference levels (DRL) for audit
- Operator or procedural faults leading to unintended dose incidents
- Roles
  - Referrer
  - Practitioner
  - Operator (doesn’t have to be registered health care worker - engineer)
  - Employer
    - Has overall responsibility
    - Allocated individuals to roles
    - Provides procedures and rules

- Females
  - 10 day rule = imaging within 10 days of last LMP (largely abandoned)
  - 28 day rule = if not pregnant continue, if unsure consider justification

IRR99 (CQC) [WORKERS AND PUBLIC] - Final responsibility lies with the employer

- Roles
  - RPA = medical physics expert, involved in risk assessment, calibration, gives advice when buying new equipment
  - RPS = Ensure local rules are being complied with
- DOSE limits as before – IRR99 does talk about recording patient dose
- Special areas – both need local rules
  - Controlled area = effective dose likely >6mSv, equivalent dose >3/10 or average daily dose >7.5μSv/hour
    - Much like classification but applied to areas near radiation equipment
  - Supervised areas = as above but >1mSv/year or >1/10 dose limit
- Excessive doses due to equipment failure – triggers local investigation
  - IR, fluoro, CT, nuclear >5mSv– multiply intended dose by 1.5
  - Low dose nuclear <5mSv, mammography – by 10
  - Radiographs, very low dose nuclear <0.5mSv – by 20
- Personal protective equipment (employer must supply)
  - 0.25mm = 5% transmit (for low 100kV)
  - 0.35mm = 3% transmit (for high 150kV)
  - 0.5mm = 1.5% transmit (for IR)
  - Thyroid shield always 0.5mm Pb
  - Glasses and gloves from 0.25-1mm

Exposures may occur for medico-legal reasons if the patient may receive financial or social benefit

Employers must establish DRL, these may be taken from national data

Patient incidents = IRMER
IRMER = criminal law
Equipment incidents = IRR
IRR not law

X-ray requires a warning light to come on, audible sound is extra but common