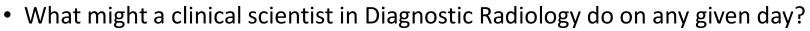
### SCOTTISH MEDICAL PHYSICS AND CLINICAL ENGINEERING TRAINING SCHEME



### A day in the life of a Clinical Scientist in... Diagnostic Radiology and Radiation Protection

Dr Mark Worrall Head of Medical Physics NHS Tayside

# Overview

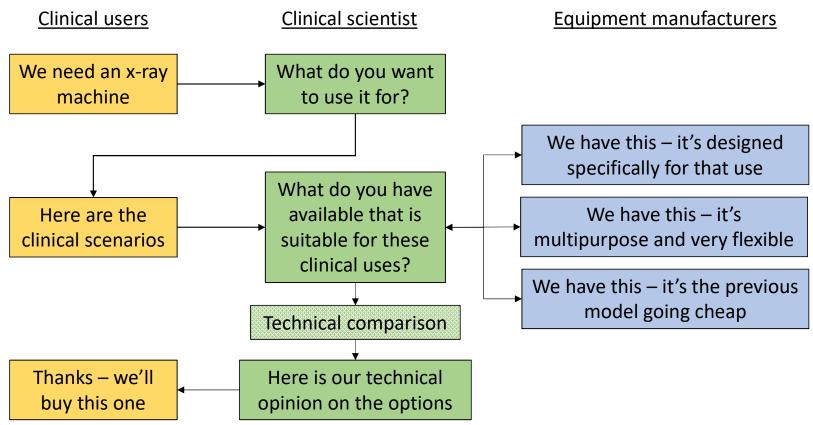


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- Concerning X-ray equipment
- Concerning optimisation
- Concerning patient dose
- What might a clinical scientist in Radiation Protection do on any given day?
  - Installation design
  - Installation testing
  - Audit of arrangements
  - Liaise with inspectorates
- What might both have to do on any given day?
  - Provide and undertake training
  - Teaching
  - Maintain certifications
  - Continuous professional development
  - Research and innovation

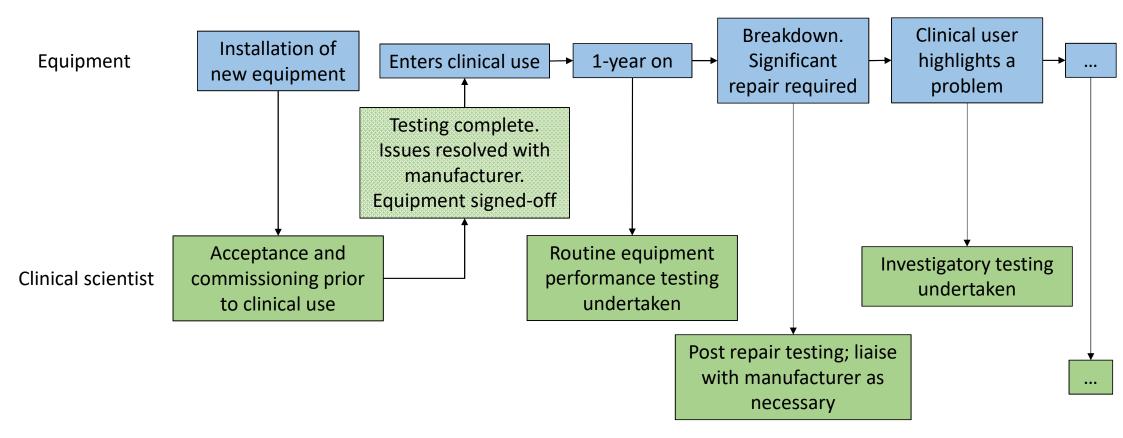
• X-ray equipment – technical expertise during procurement







• X-ray equipment – testing



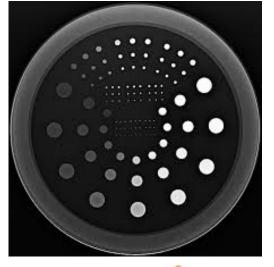
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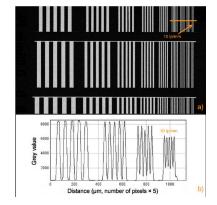
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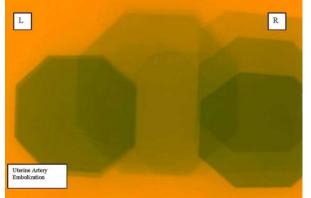








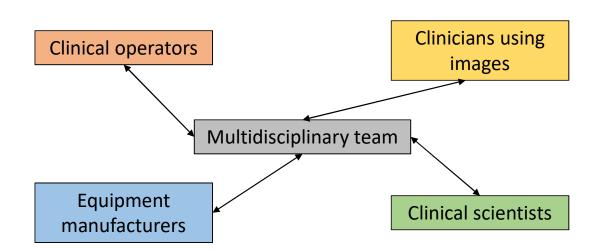








- Concerning optimisation our images aren't good enough
- Concerning patient dose our median patient doses are higher than other centres







• Installation design sting worktop Monte Carlo Simulation Lead (Broad Parallel Beam) siow to match and SERVICE AREA 1,0000 Constant TVL 16.6 mm-0.1000 Transmission CONTROL ROOM ES ABOVE WL 0.0100 0.0010 PATIENT PREP. 0.0001 0 5 10 15 20 25 30 35 40 45 50 (XXXXX) BED SPACE Thickness (mm) 559 559 In room monitors to standard Varian locat CCTVo XXXXX with sink and drainer) and 50 ore drawn dap with integral re sisting medical SLUICE

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Installation testing





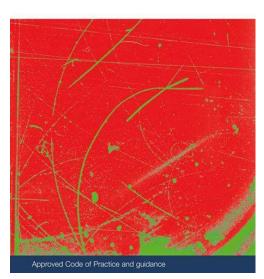


#### • Audit of arrangements

Health and Safety

Work with ionising radiation

Ionising Radiations Regulations 2017











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#### Radiation Dosimetry Report

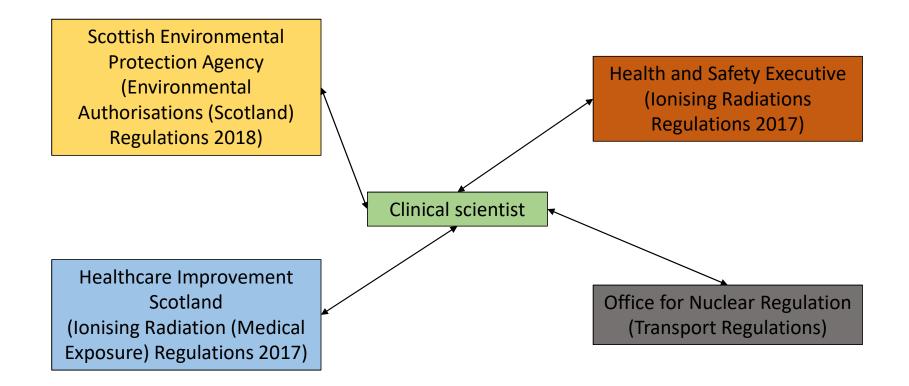
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The role of a clinical scientist in...

### Diagnostic Radiology and Radiation Protection

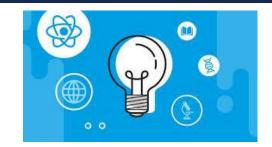
- Training (providing and receiving)
  - On new technologies and developments
  - On the radiation protection implications of new examinations and procedures
- Teaching
  - For Universities and professional bodies
- Maintain certifications
  - Radiation Protection Adviser
  - Radioactive Waste Adviser
  - Medical Physics Expert
  - Laser Protection Adviser
  - All required by law; all require recertification on a 5 year cycle
- Continuous professional development
  - All HCPC registrants must maintain CPD
- Research and innovation
  - Encouraged, where there is a clear benefit to the NHS





Institute of Physics and Engineering in Medicine

RPA2000 Certifying Competence for Radiation Protection Professionals





The role of a clinical scientist in...

Diagnostic Radiology and Radiation Protection



# Additional information;

https://medphys.dundee.ac.uk/~sjgandy/STS/Scottish Medical Physics and Clinical Engineering Training Scheme/Open Day 2021/

## •Questions?

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