

# SCOTTISH MEDICAL PHYSICS AND CLINICAL ENGINEERING TRAINING SCHEME



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

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NHS Tayside

# Overview



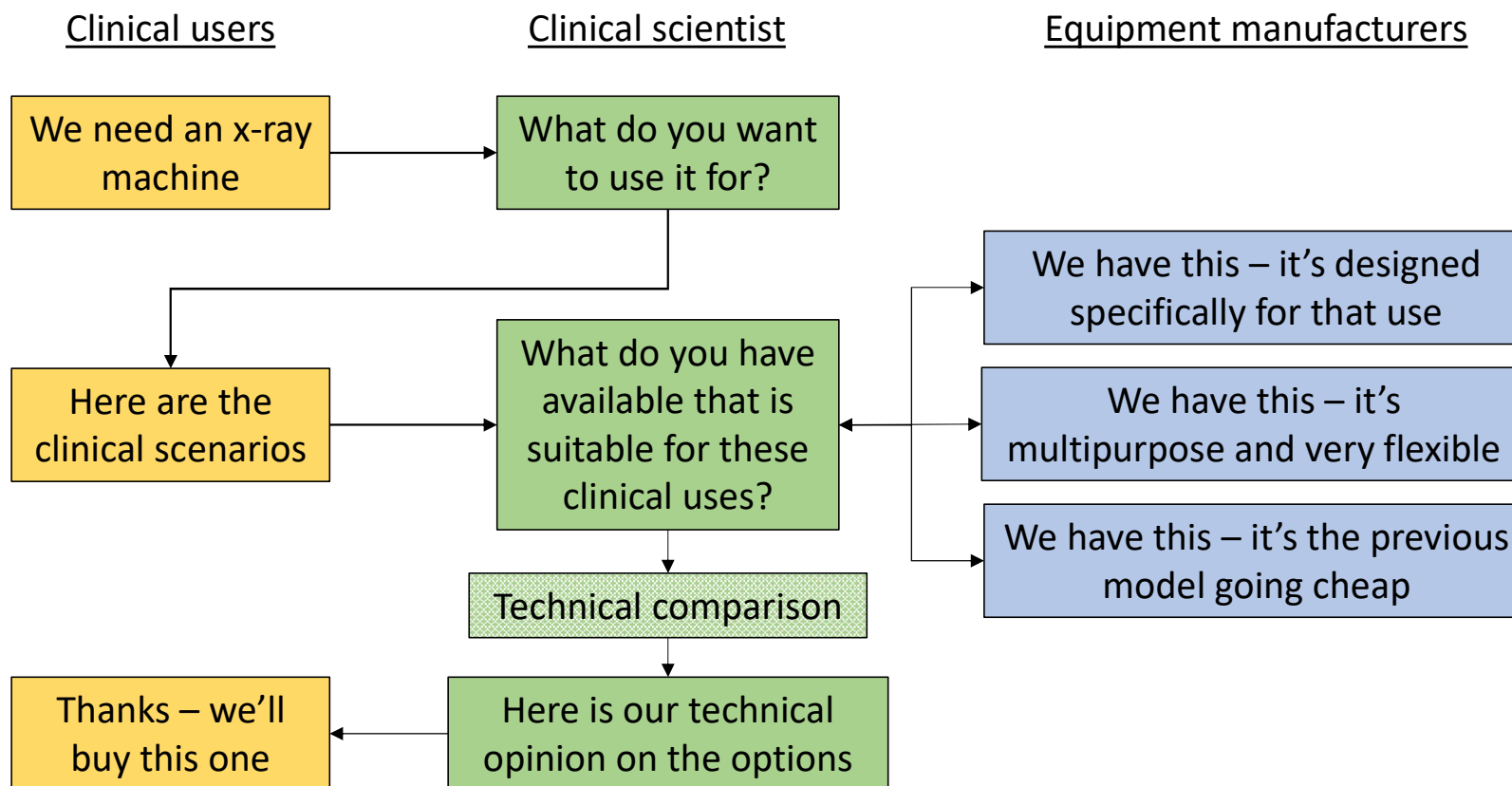
- What might a clinical scientist in Diagnostic Radiology do on any given day?
- What might a clinical scientist in Radiation Protection do on any given day?
- What might both have to do on any given day?

The role of a clinical scientist in...

# Diagnostic Radiology



- X-ray equipment – technical expertise during procurement

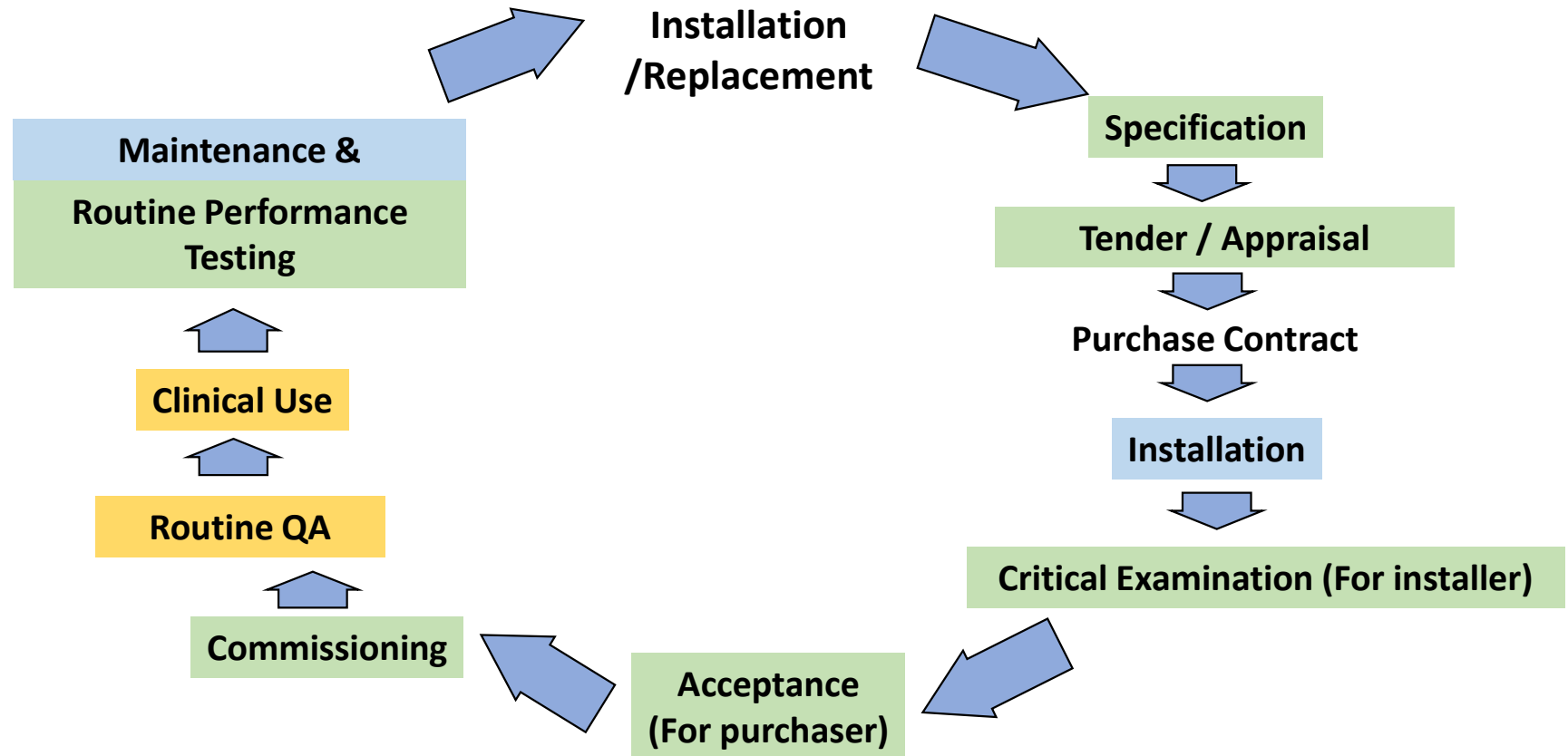


The role of a clinical scientist in...

# Diagnostic Radiology



- Lifecycle of X-ray Imaging equipment – technical expertise

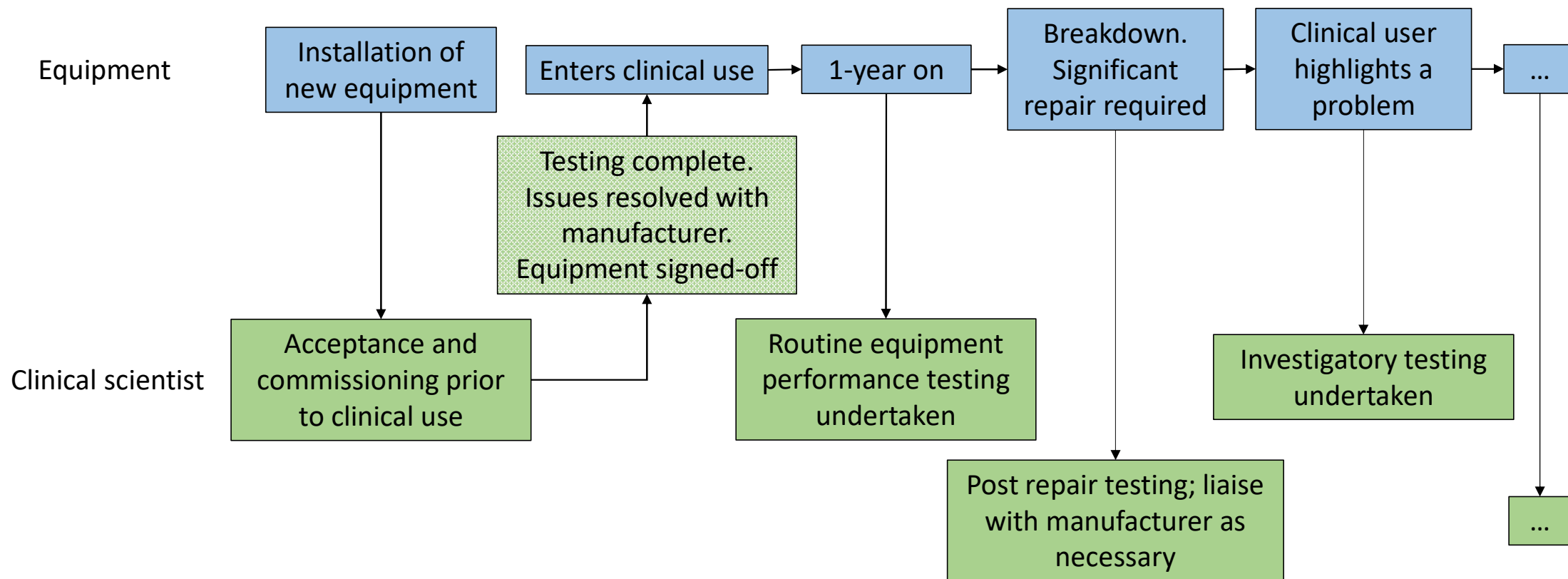


The role of a clinical scientist in...

# Diagnostic Radiology



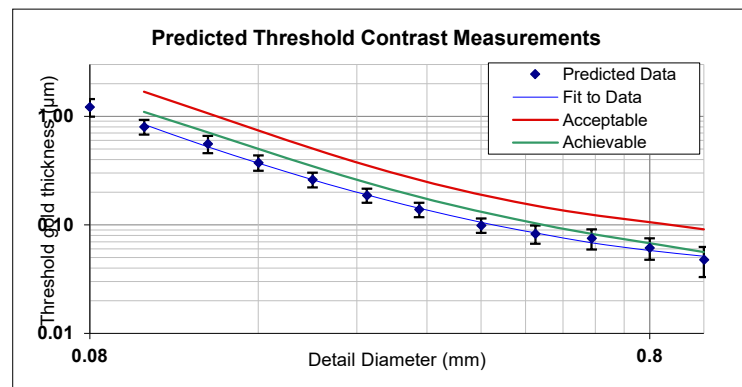
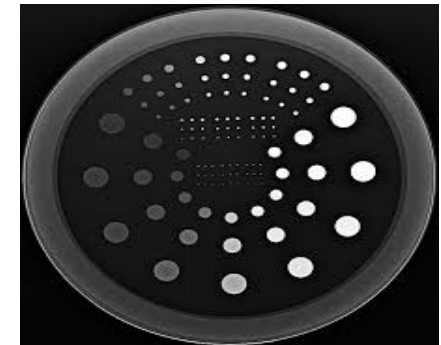
- X-ray equipment – testing



The role of a clinical scientist in...

# Diagnostic Radiology

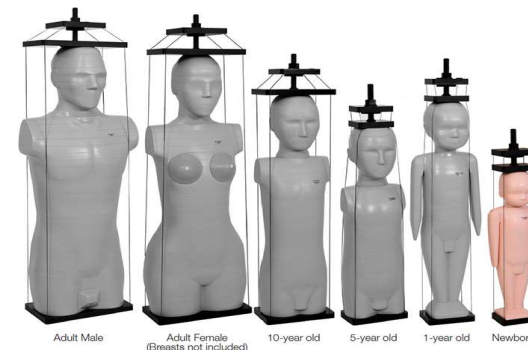
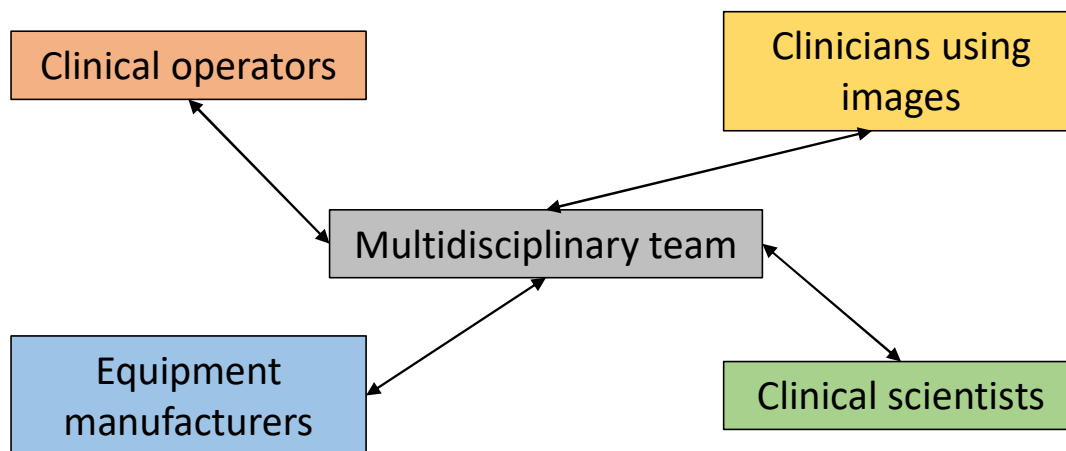
- X-ray equipment – testing



The role of a clinical scientist in...

# Diagnostic Radiology

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

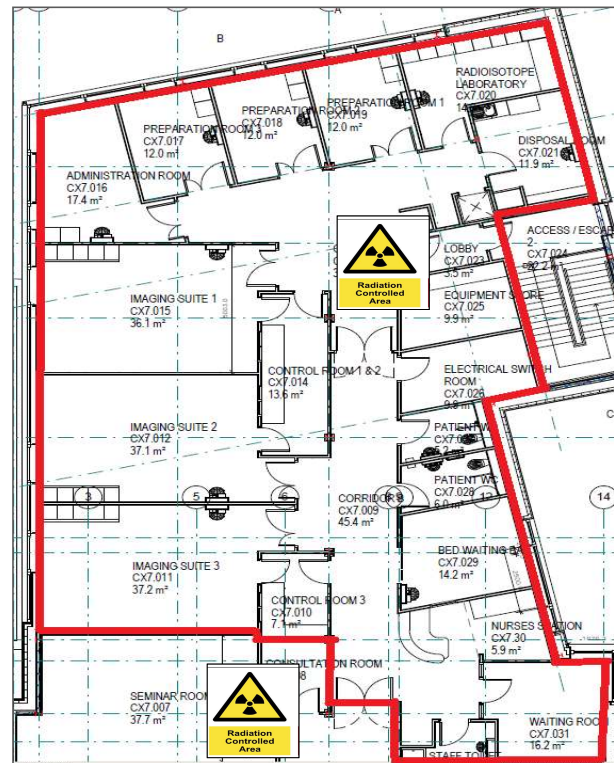
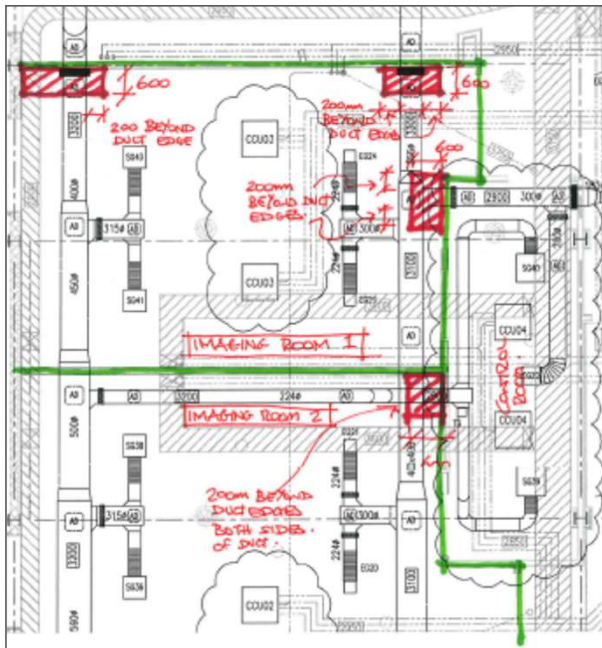




The role of a clinical scientist in...

# Radiation Protection

- Installation design





The role of a clinical scientist in...

# Radiation Protection

- Installation testing

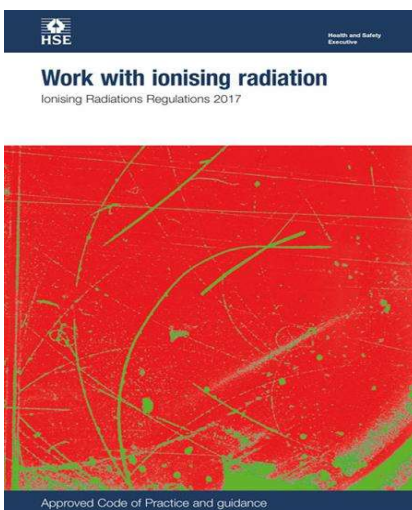
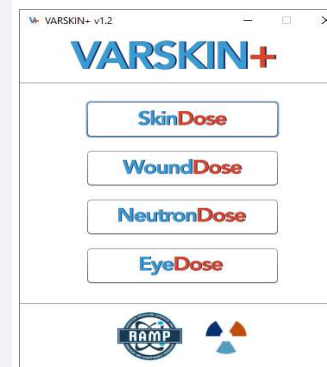


The role of a clinical scientist in...

# Radiation Protection



- Staff
- Audit of arrangements
- Investigations



NHS TAYSIDE IRR17 RISK ASSESSMENT - Uncontrolled When Printed	
<b>Radiation Risk Assessment - General X-ray</b> Clinical Radiology, Ninewells Hospital Dundee Ionising Radiations Regulations 2017	
<b>Location of Work:</b>	Ninewells Hospital, Main Radiology Dept, General Radiography Rooms, C, E & F
<b>Date of Commencement:</b>	2013 Room C 2022 Room E 2023 Room F
<b>Description of Work:</b>	Radiography in Rooms C, E & F
<b>Source of Radiation:</b>	Three tubes in three rooms (Rooms C, E & F)
<b>Staff Members Involved:</b>	Radiographers, Radiologists, Assistant Practitioners, Assistants, Radiology Nurses, Student Radiographers, Nurses, Play Specialists, Student Nurses, Medical Staff and students, Medical Physics Clinical Scientists, Medical Technical Officers and trainees for purpose of x-ray equipment testing and provision of Radiation protection advice, Patients, Property dept & ancillary staff, Domestic cleaners
<b>Outside workers involved:</b>	Potentially Application specialists, sales reps and service engineers who do not take handover of the controlled area. Potentially Agency radiographers. Potentially NIST Medical Physics staff and Radiographers where this area is handed over to service engineers.
<b>Classified workers involved:</b>	Potentially HSE Inspectors
<b>Pregnant worker</b>	The risk assessment includes a generic risk assessment for pregnant workers at this location
<b>Other persons involved</b>	Patients, Interviewers, Prison officers, Service x-ray engineers who take handover of the controlled area. Potentially members of the public holding patients or present in adjacent units.

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 Review due: 30/06/2024 Author: J. O'Hare Approved by: M. Wilson

NHS TAYSIDE LOCAL RULES - IRR2017	
<b>NHS TAYSIDE LOCAL RULES GOVERNING GENERAL RADIOGRAPHY X-RAY DEPARTMENT</b> <b>NINEWELLS HOSPITAL &amp; MEDICAL SCHOOL, DUNDEE</b>	
<b>ORGANISATION</b> NINEWELLS RADIOLOGICAL CLINICAL LEAD: [Redacted] Dept Radiology, Ninewells Hospital & Medical School, Dundee. Tel: 01382 550111 RADIATION PROTECTION ADVISER: J. O'Hare, Dept Medical Physics, Ninewells Hospital & Medical School, Dundee. Tel: [Redacted] RADIATION PROTECTION SUPERVISOR: [Redacted] Dept Radiology, Ninewells Hospital & Medical School, Dundee. Tel: 01382 550111 RADIATION PROTECTION SUPERVISOR (DEPUTY): [Redacted] Dept Radiology, Ninewells Hospital & Medical School, Dundee. Tel: 01382 550111 APPOINTED DOCTOR: [Redacted]	
These Rules Cover Procedures Performed in Rooms C, E and F	
<b>RULES</b> 1) E Clipston has a duty as RPS to supervise the arrangements made by the employer as contained within these local rules and other associated procedures and protocols. 2) The RPS has a responsibility to supervise the work and the authority to prohibit any work not being carried out according to the terms of the Local Rules. Any radiographer working under authorisation of the RPS has the same authority. 3) All staff directly involved in the procedures covered by these local rules should read the local rules annually and record that they have done so. 4) No member of staff is permitted to enter or work in the controlled area without first having received the initial information, instruction and training appropriate for their role as outlined in NHS Tayside's training documentation. The frequency and scope of ongoing training as outlined in this document must be adhered to. 5) Outside workers are only permitted entry to the controlled area following the satisfactory completion of an Outside Workers form, the reading of access arrangements and key systems of work, provision of training or instructions as appropriate, and then only when arrangements for personal monitoring or dose estimation are in place. 6) Prison officers or court remaining within the controlled area during the medical exposure must wear the protective body apron provided and remain at least 2 m from the patient and x-ray tube, as directed by the Radiographer. Page 1 of 7	

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The role of a clinical scientist in...

# Radiation Protection



- Liaise with inspectorates



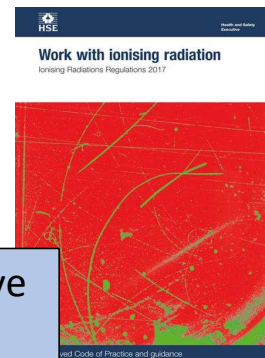
Scottish Environmental  
Protection Agency  
(Environmental  
Authorisations (Scotland)  
Regulations 2018)



Healthcare Improvement  
Scotland  
(Ionising Radiation (Medical  
Exposure) Regulations 2017)

Clinical scientist

Health and Safety Executive  
(Ionising Radiations  
Regulations 2017)



Office for Nuclear Regulation  
(CDG Transport Regulations)

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





The role of a clinical scientist in...

# Diagnostic Radiology and Radiation Protection



# Thank you for listening

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