

# 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



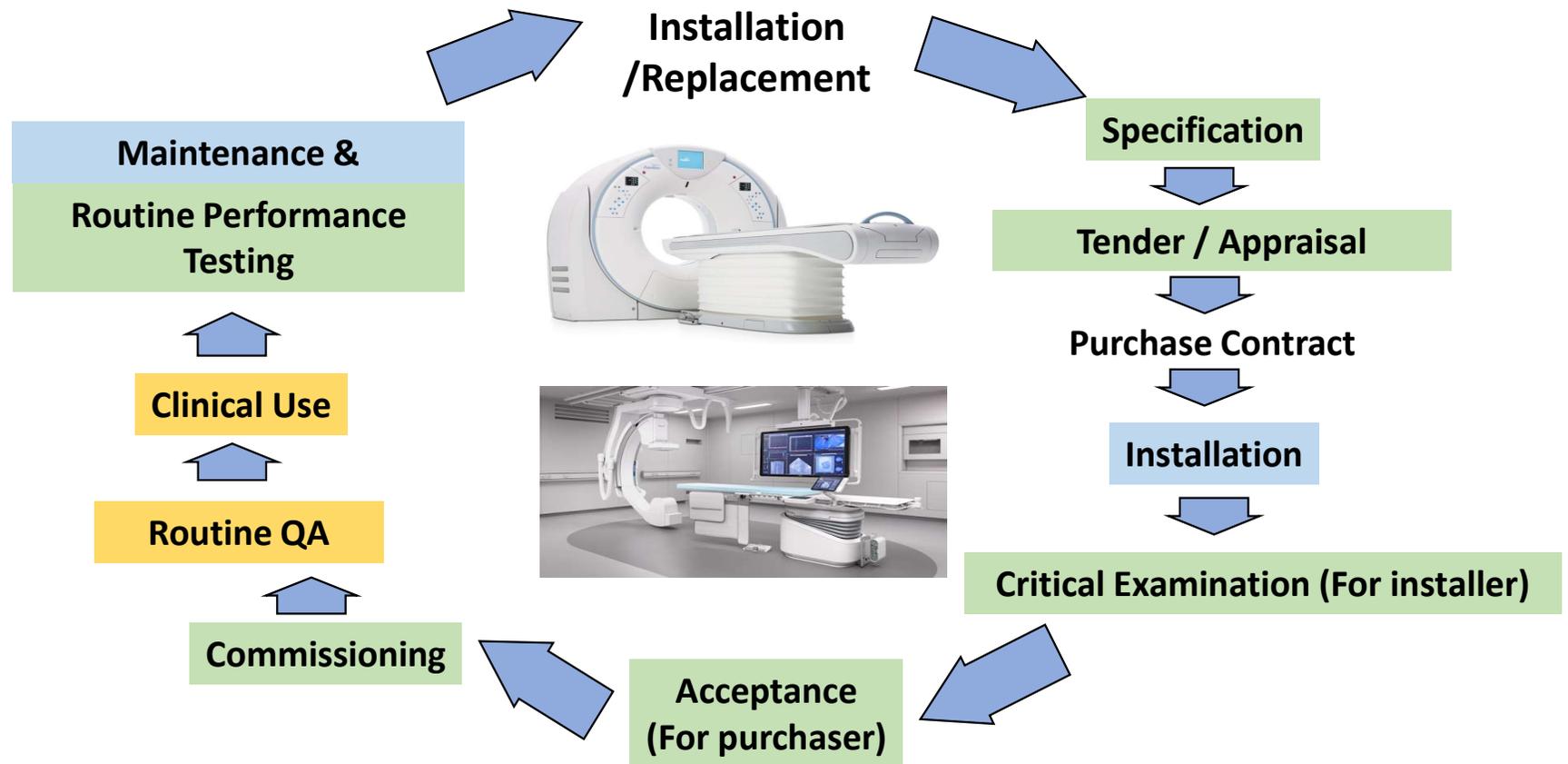
- What might a clinical scientist in Diagnostic Radiology do on any given day?
- What might a clinical scientist in Radiation Protection do on any given day?
- What might both have to do on any given day?

The role of a clinical scientist in...

# Diagnostic Radiology



- Lifecycle of X-ray Imaging equipment – technical expertise

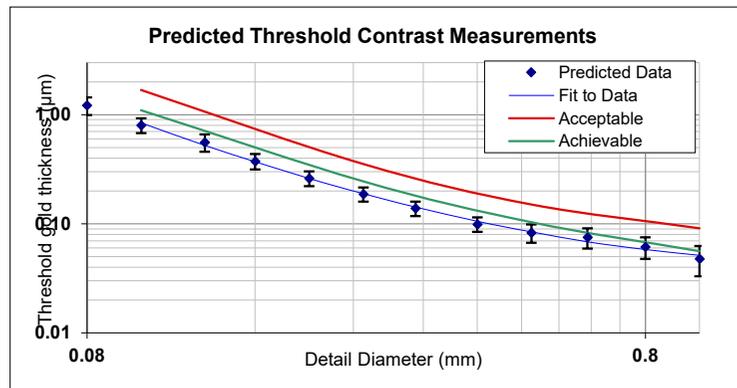
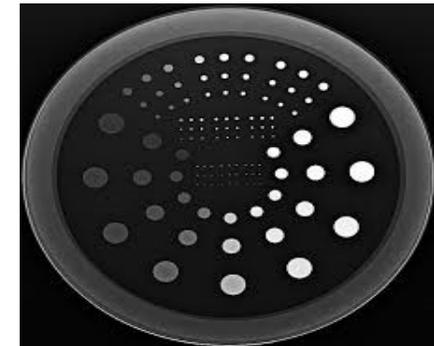


The role of a clinical scientist in...

# Diagnostic Radiology



- X-ray equipment – testing

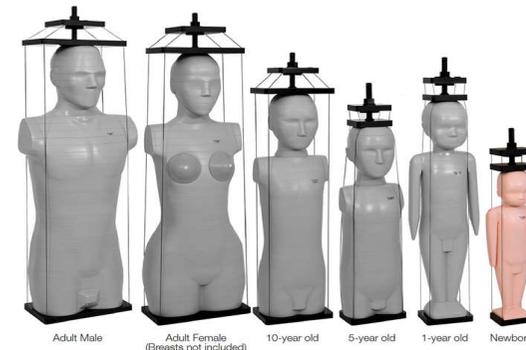
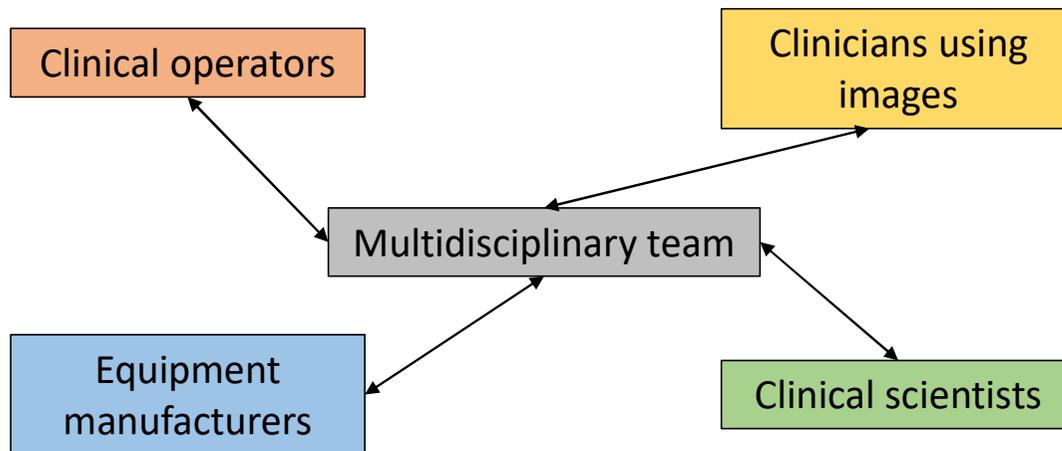


The role of a clinical scientist in...

# Diagnostic Radiology



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

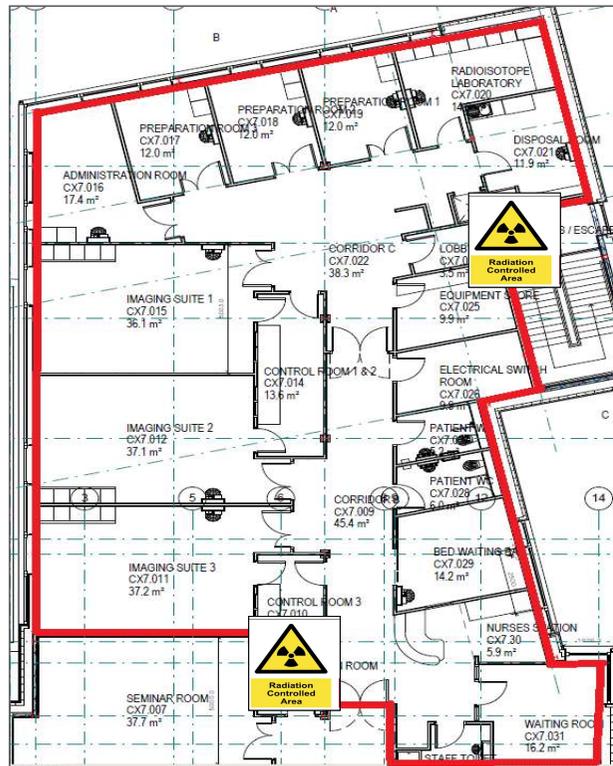
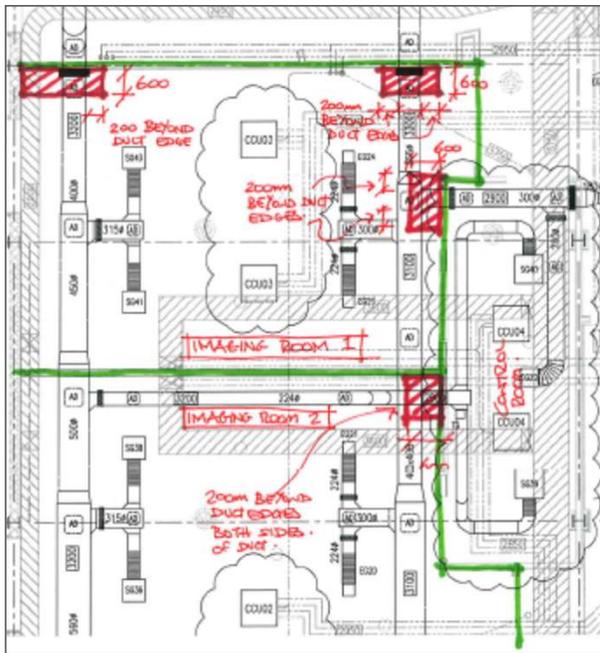


The role of a clinical scientist in...

# Radiation Protection



- Installation design



The role of a clinical scientist in...

# Radiation Protection



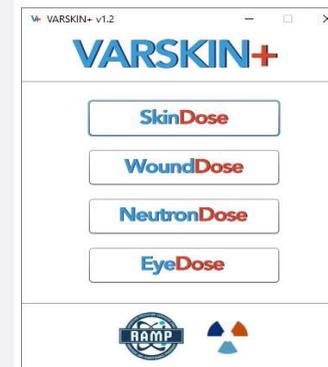
- Installation testing



# The role of a clinical scientist in... Radiation Protection



- Staff
- Audit of arrangements
- Investigations



**HSE** Health and Safety Executive

## Work with ionising radiation

Ionising Radiations Regulations 2017

Approved Code of Practice and guidance

NHS TAYSIDE IRR17 RISK ASSESSMENT - Uncontrolled When Planned

Radiation Risk Assessment - General X-ray  
Clinical Radiology, Ninewells Hospital Dundee  
Ionising Radiations Regulations 2017

Location of Work:	Ninewells Hospital, Main Radiology Dept, General Radiography Rooms, C, E & F
Date of Commencement:	2013 Room C 2022 Room E 2023 Room F
Description of Work:	Radiography in Rooms C, E & F
Source of Radiation:	Three tubes in three rooms (Rooms C, E & F)
Staff Members Involved:	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 purposes of x-ray equipment testing and provision of Radiation protection advice. Porters, Property dept & ancillary staff, Domestic assistants
Outside workers involved:	Potentially Application specialists, sales reps and service engineers who do not take handover of the controlled area. Potentially Agency radiographers. Potentially HSE Medical Physics staff and Radiographers where the area is handed over to service engineers.
Classified workers involved:	Potentially HSE inspectors
Pregnant worker:	The risk assessment includes a generic risk assessment for pregnant workers at this location
Other persons involved:	Patients, Visitors, Prison officers, Service x-ray engineers who take handover of the controlled area. Potentially members of the public, holding patients or present in adjacent areas.

Page 1 of 10  
Doc No: OIR-IR-NHS-DOE-MS1 Issue No: 111 Last Update: 27/07/2023  
Review date: 28/09/2024 Author: J O'Donnell Approved by: M Worsell

NHS TAYSIDE LOCAL RULES - IRR2017

**LOCAL RULES GOVERNING GENERAL RADIOGRAPHY  
X-RAY DEPARTMENT  
NINEWELLS HOSPITAL & MEDICAL SCHOOL, DUNDEE**

ORGANISATION

NINEWELLS RADIOLOGICAL CLINICAL LEAD: [REDACTED] Dept Radiology, Ninewells Hospital & Medical School, Dundee, Tel: 01382 550111  
RADIATION PROTECTION ADVISER - Chief: 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

RULES

- 1) The Clinician has a duty as RPS to supervise the arrangements made by the employer as contained within these local rules and other established 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 after 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 HSE 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 Worker's form, the reading of access arrangements and key systems of work, provision of training or instruction as appropriate, and then only when arrangements for personal monitoring or 'dose estimation' are in place.
- 6) Disinfectant carts 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

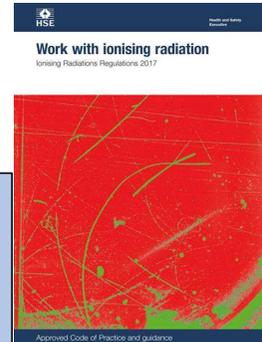


- Liaise with inspectorates



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

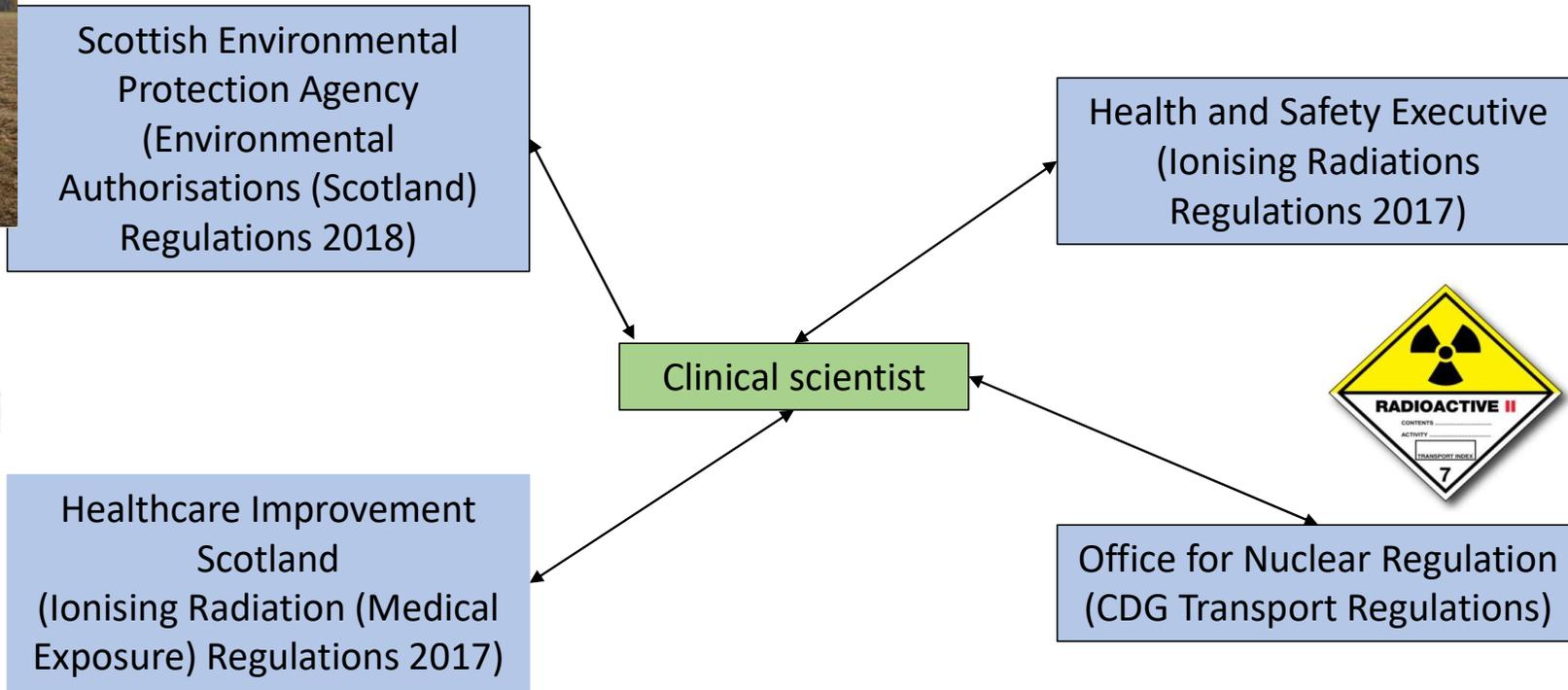
Health and Safety Executive  
(Ionising Radiations Regulations 2017)



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

Clinical scientist

Office for Nuclear Regulation  
(CDG Transport Regulations)

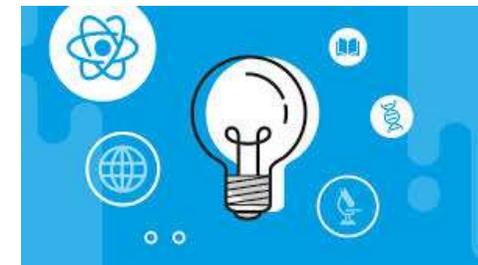


The role of a clinical scientist in...

# 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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