

Experience as a Specialism Medical Physics Trainee

SMPCETS Open Day 2024

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SMPCETS

Scottish Medical Physics & Clinical
Engineering Training Scheme



Department of
Clinical
Physics &
Bioengineering

Specialism Training



Start off working under close supervision



Follow your training plan and meet with your
training supervisor regularly



Gradually build experience to begin working
more independently



Integrate into the day-to-day work of your
department



More time to focus on longer term projects
and goals



Innovation project



www.hcpc-uk.org

The Goal:

Meet the Good Scientific Practice (GSP) Competencies



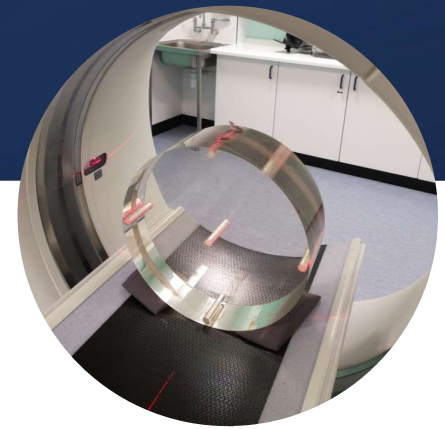
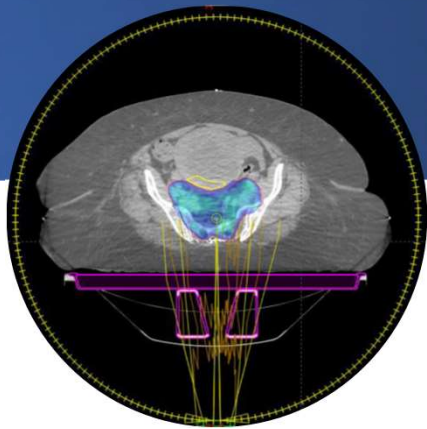
Apply for STP Equivalence via the Academy of Healthcare Science (AHCS)



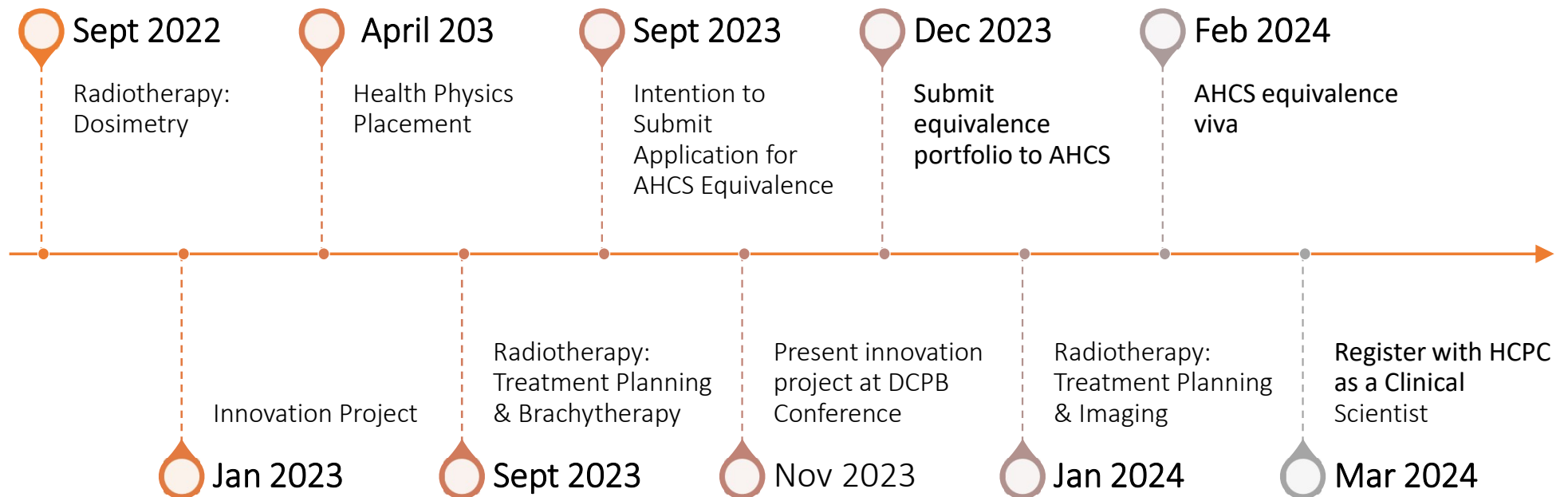
Use your equivalence certificate to register as a Clinical Scientist with the Health and Care Professions Council (HCPC)

My Specialism:

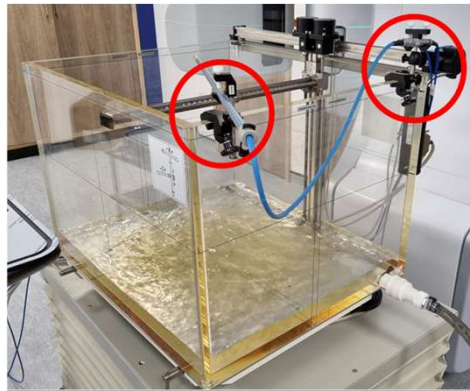
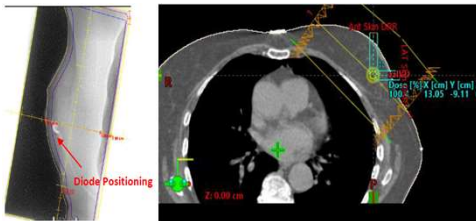
Radiotherapy Physics &
Diagnostic Radiology & Radiation Protection



My Specialism Year Timeline

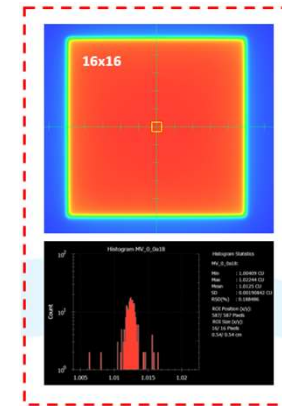
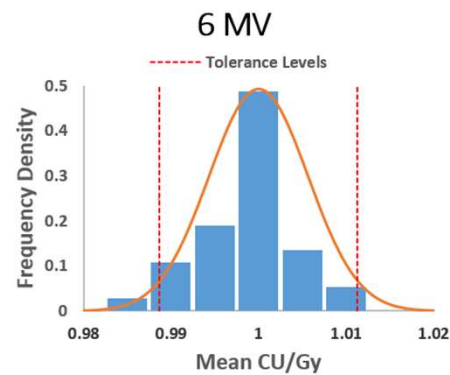


Radiotherapy: Dosimetry

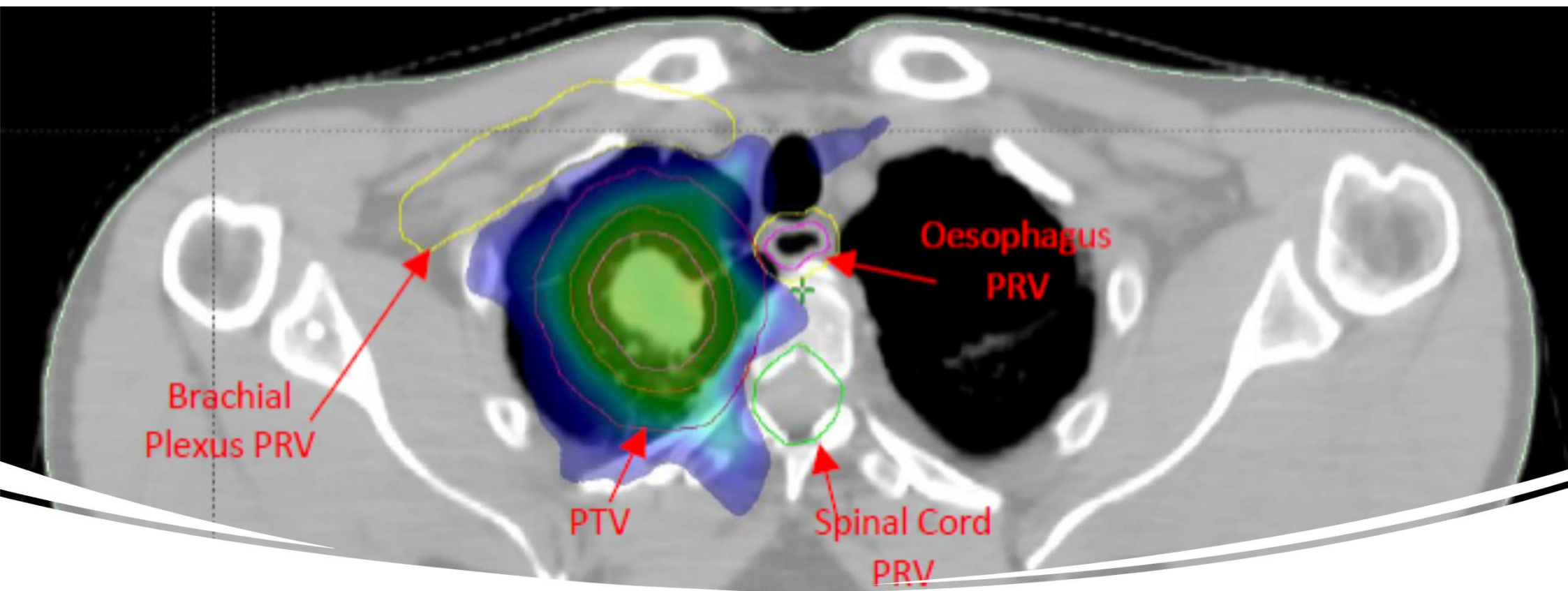


- Linear Accelerator Quality Assurance
- Varian Edge Commissioning: Water Tank (Percentage Dose Depths, Profiles)
 - Pre-Treatment Quality Assurance
- Patient in-vivo dosimetry investigations
 - Dosemeter Calibrations

Innovation Project



- Formal Project Proposal
- Developing a QA programme for Electronic Planar Imaging Device (EPID) Dosimetry
- Determining tolerance levels for mean pixel value constancy check along the central axis
- Investigating EPID linearity response
- Investigating EPID response to Intensity Modulated Radiotherapy (IMRT) plan
- Presented findings at annual DCPB conference



Radiotherapy: Treatment Planning

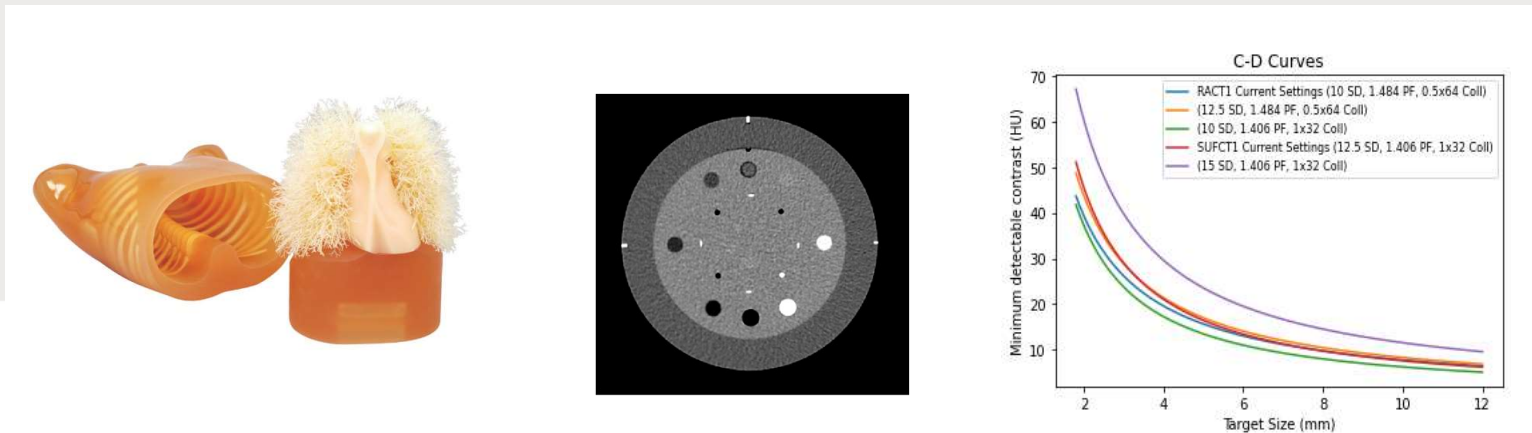
- Treatment Planning System: Varian Eclipse™
- Optimising individual patient's external beam therapy
- Assessing dose coverage to tumour whilst minimising dose to healthy tissue and Organs at Risk (OARs)
- Multi-disciplinary team meetings to discuss treatment pathways

Diagnostic Radiology & Radiation Protection



- CT Scanner Testing
- Radiotherapy Public Dose Estimation
- Radiotherapy Shielding (IPEM Report 75)
- Patient Dosimetry – Accidental & Unintended Exposure Investigations (Risk Estimations & Communications)

Diagnostic Radiology & Radiation Protection: Dose Audit & Optimisation



- Diagnostic Reference Levels (DRLs)
 - Optimising CT Pulmonary Angiogram examinations
 - Dose & Image Quality Assessment using specialist phantoms
- Collaboration with radiologists and radiographers to score image quality
 - Software Design – CT Low Contrast Detectability

Safety and Legislation

IRR17

IR(ME)R17

EASR18

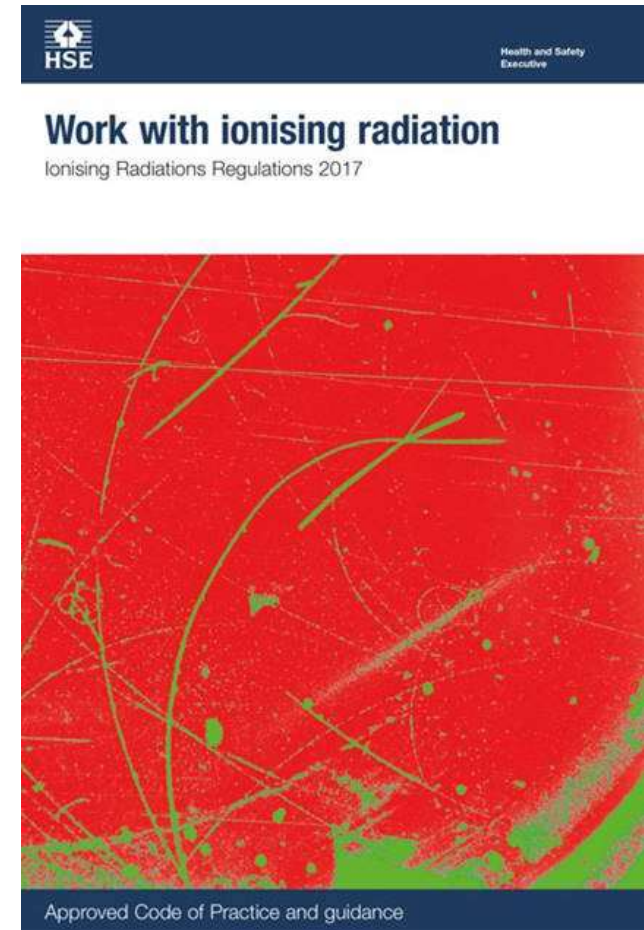
Compliance audit

Radiation Risk

Assessment

Local Rules

Staff training



AHCS Equivalence Portfolio

- 5000 words summarising my relevant training and experience
- About 60 pieces of evidence of work I have done
- Everything is mapped to the Good Scientific Practice (GSP) competencies:
 - Professional Practice
 - Scientific Practice
 - Clinical Practice
 - Research, Development and Innovation
 - Clinical Leadership

AHCS Equivalence Viva

- Panel of assessors will ask questions to:
- Ensure that the candidate's portfolio is an accurate reflection of their experience
- Check you are safe to practice as a Clinical Scientist



- Peer support
- CPD
- Feedback & continuous improvement
- Collaboration & networking