



# EXPERIENCE AS A FOUNDATION YEAR MEDICAL PHYSICS TRAINEE

SMPSETS Open Day 2024

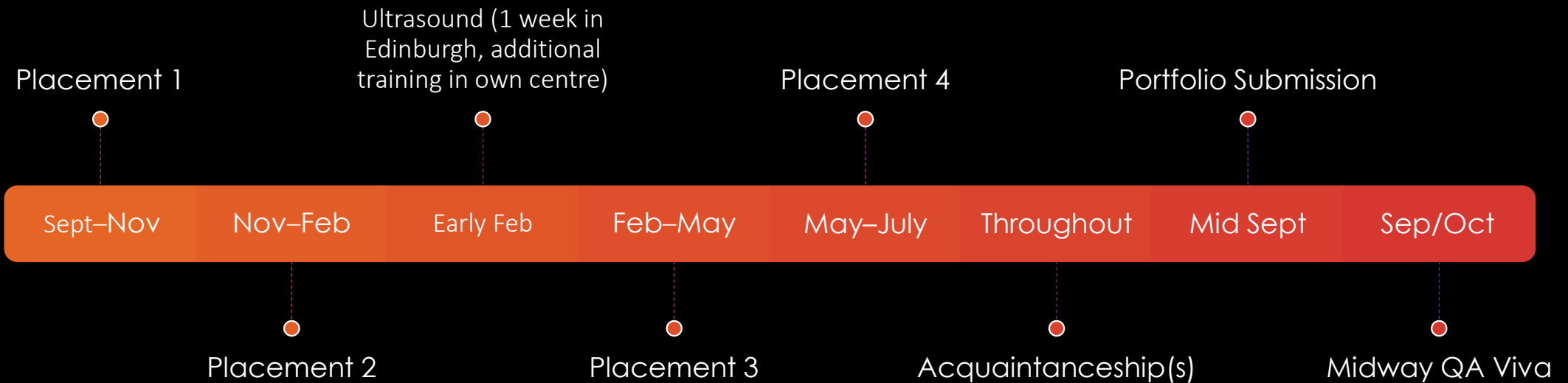
Bryony Lumb Morollon

[bryony.lumbmorollon@ggc.scot.nhs.uk](mailto:bryony.lumbmorollon@ggc.scot.nhs.uk)

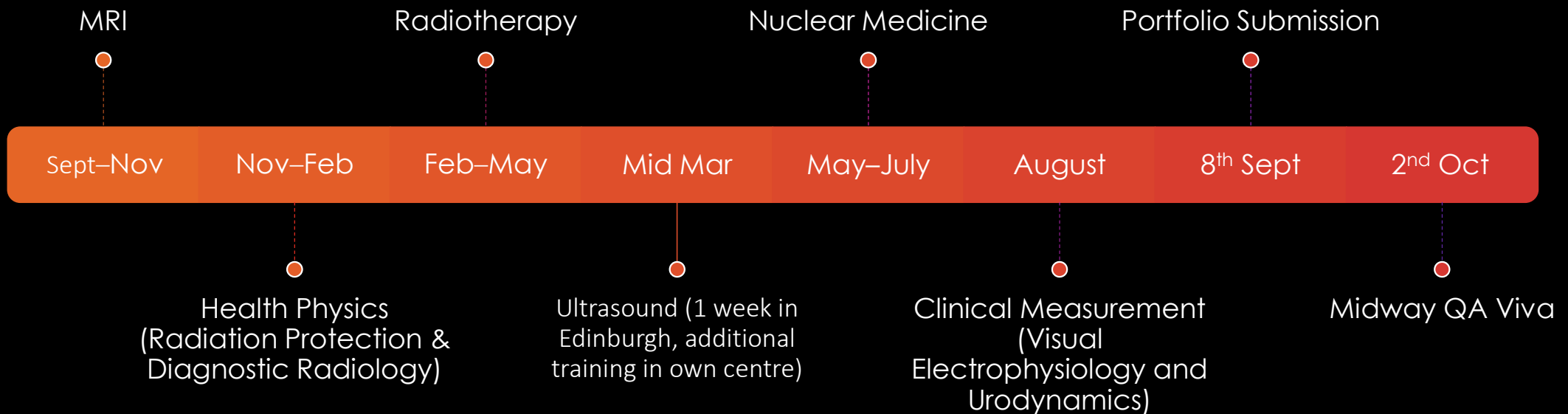
## Medical Physics

Year 1	Full time MSc (Glasgow or Aberdeen)	
Year 2	Four 11 week rotations: Radiotherapy, Radiation Protection, Imaging with Non-ionising Radiation and Imaging with Ionising Radiation	Attachement unique to centre
	Mid-way Portfolio and QA Viva	
Years 3 - 3.5	Specialism: 1.5 years to include a 3-6 month innovation project	
	AHCS Equivalence portfolio and viva	
	HCPC Registration	

# FY TIMELINE



# MY FY TIMELINE (GGC)



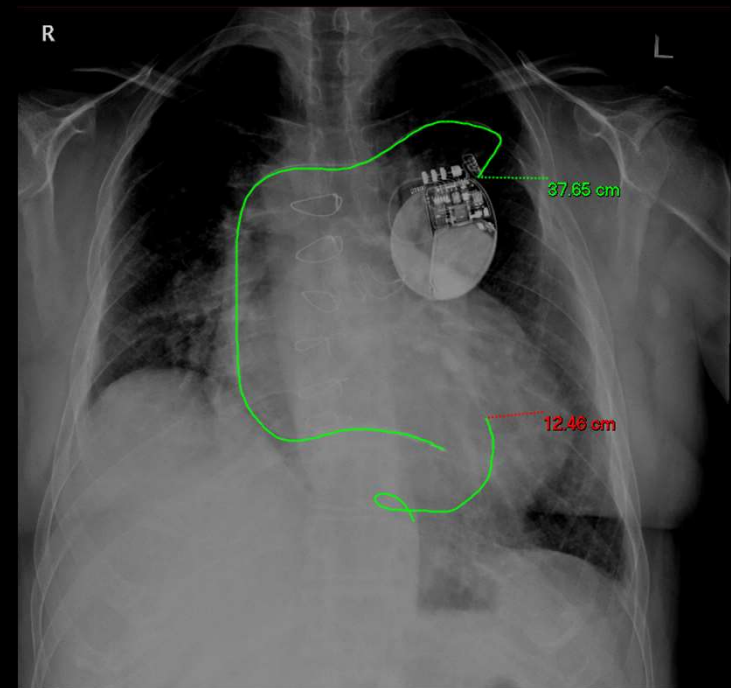
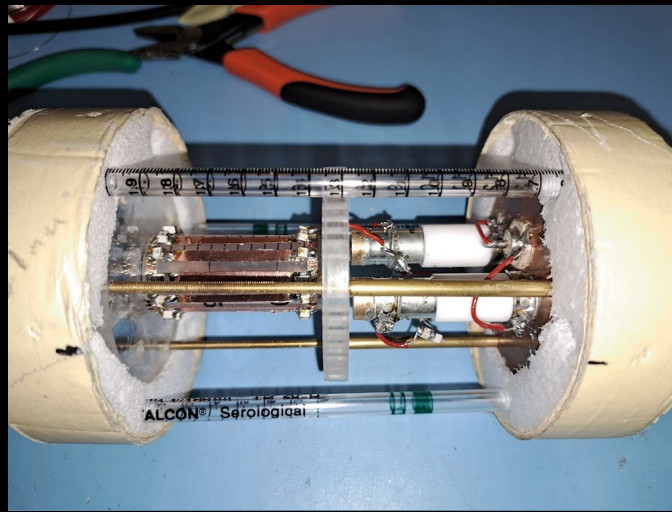
Title	Date	Details	Self-study	Deliverables	Supervisor	Sign-off status
MRI Safety	09/12/2022	MR Safety - Assistance with MRI implant safety assessments (n~5), to be safety evaluated for 1.5T and 3.0T throughout placement. - Familiarise with governance framework for generic implant safety policies - Discuss and perform MRI site safety audit (individual task) - * Site Audit Mini-project (address backlog) - Comparison of safety issues at 1.5T, 3T and 7T - Review risk assessment - Incident review - Discuss safety aspects for RHC (PHB - safety for patient and staff, dept layout and equipment, training of staff)	Familiarity with MRI Safety - MHRA guidelines - Local rules - Review safety lecture	- Updated risk assessment - Discussion of safety assessment conclusions, MHRA guidelines and general safety questions - Awareness of safety issues around magnets, gradients, RF, cryogenics, comparison of safety issues at 1.5T, 3T and 7T, safety guidelines	john.mcneal@ggc.scot.nhs.uk	Approved
Introduction and Basic MRI Sequences	09/19/2022	Introduction and Basic MRI Sequences - QEUH Campus, MRI Unit and ICE Tour (JF/JMcL) - Meet staff, complete personal safety questionnaire, patient confidentiality discussion (JF/JMcL) - Explain aspects of MRI Physicist role in the context of the training plan and how MRI Physics fits into the NHS structure (JF/JMcL) - Supervised operation of the MRI Scanner (direct observation). - Imaging of fruit phantoms in order to illustrate T1W, T2W and PD contrast. - Imaging of T2 decay phantoms and calculation of T2 values	Spin Echo, Gradient Echo, Inversion Recovery, Contrast, SNR Trade-offs - Review introductory lectures - Self-directed reading online (e.g. imaio, mri-q, revisemri) and MRI textbooks	- Discussion and Self Study - Write up of fruit scanning and Q2 calculations	sarah.allwood-spiers@ggc.scot.nhs.uk	Approved
MRI Theory	09/26/2022	MRI Theory - k-space investigation - T1 and T2 measurements	Proton NMR experiment, MRI experiment - Review NMR lecture - Self-directed reading on theory of basic NMR (flip angles, FID, T1 and T2 relaxation). - Self-directed reading on the fundamentals of MR Imaging (RF pulses, spatial encoding, slice selection, k-space, image formation).	- Discussion and Self Study assessment - k-space investigation summary - Report on Q1 and Q2 analysis	maria.lopez-gonzalez@ggc.scot.nhs.uk	Approved
Routine Clinical Applications	10/03/2022	Routine Clinical Applications - Case studies of normal or diseased examples to highlight anatomy and/or pathology of three major clinical areas from: neuro (brain or spine), musculoskeletal (knee, hand, shoulder) or body (liver or MRCP).	Advanced Sequences, Suppression Techniques - Self-directed reading around spoiled GE, steady state GE, fast SE, partial-Fourier and single-shot SE techniques	- Discussion and Self Study assessment - Case studies	pauline.hallbarriento@ggc.scot.nhs.uk	Approved

# TRAINING PLAN

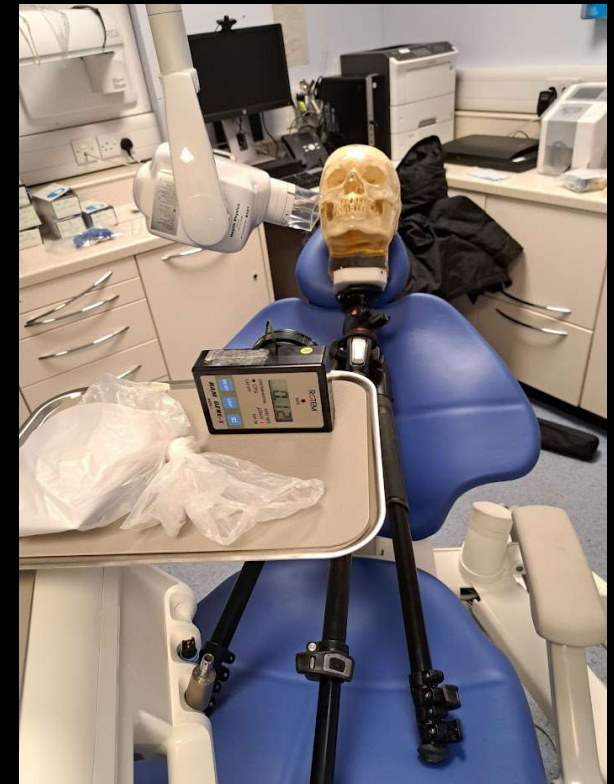
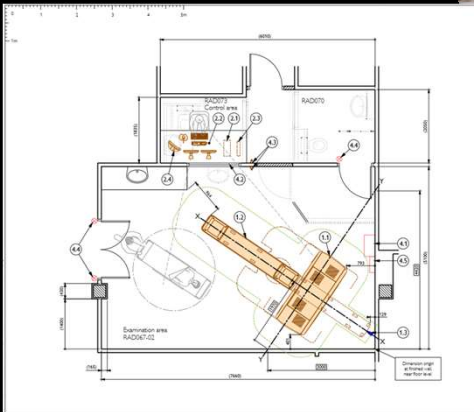
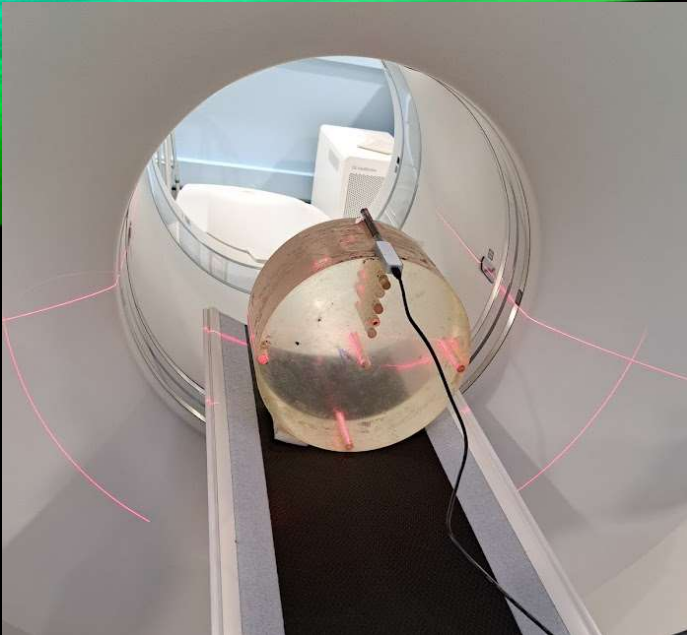
- Based on minimum deliverable content (MDC)
- Electronic sign-off for competencies from supervisors



# MRI

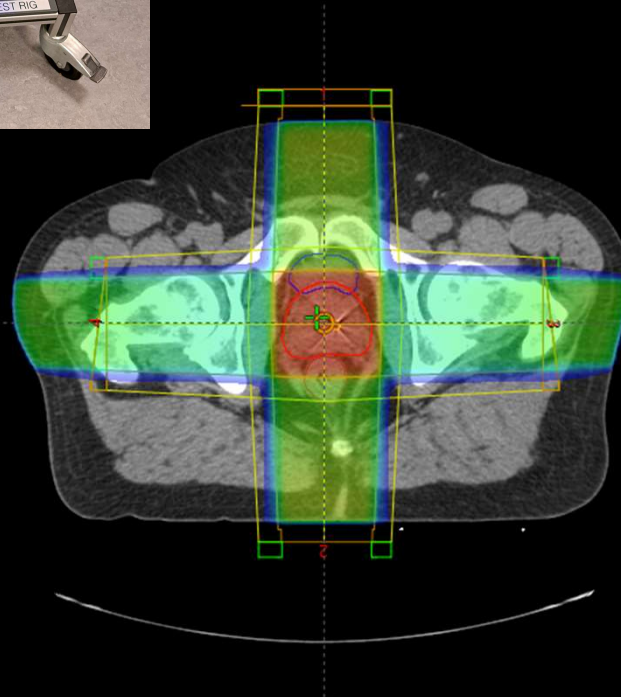
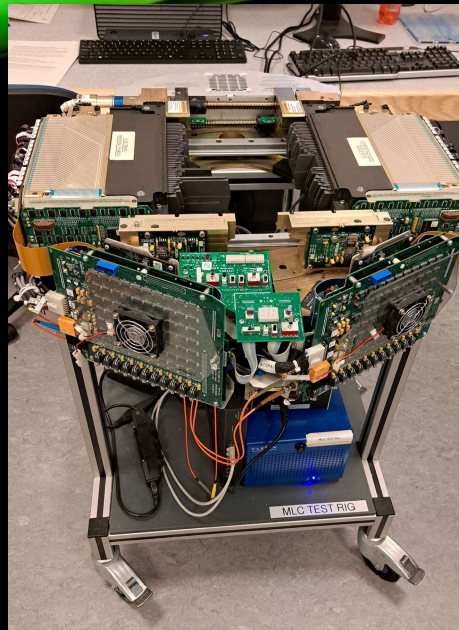
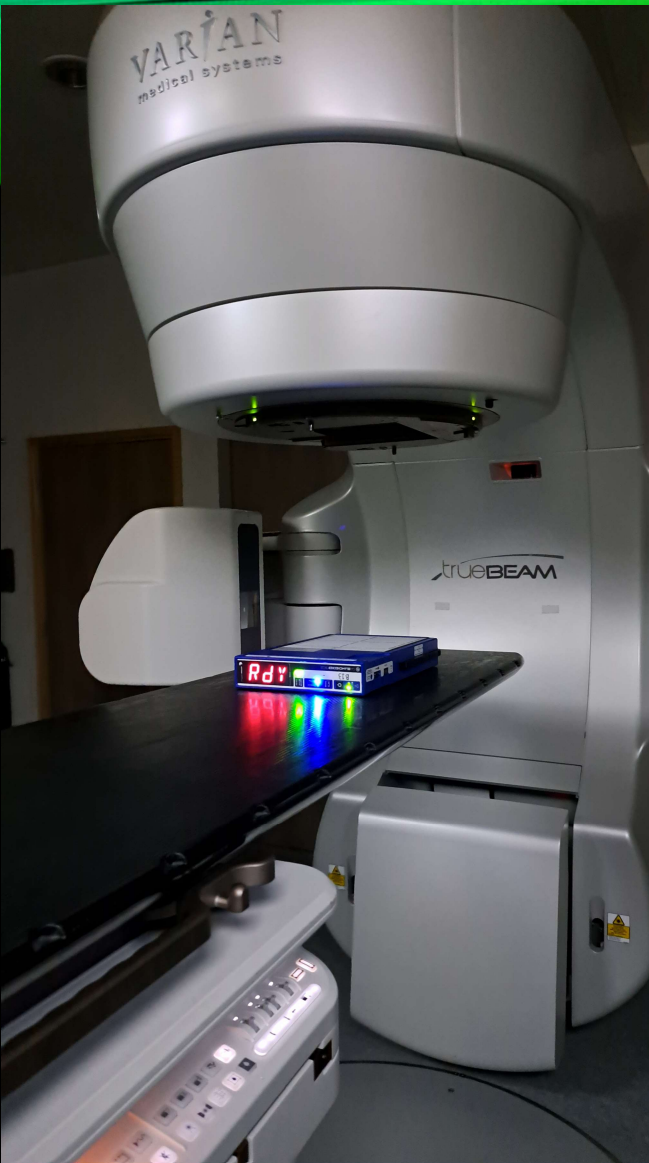


# HEALTH PHYSICS (DRRP)

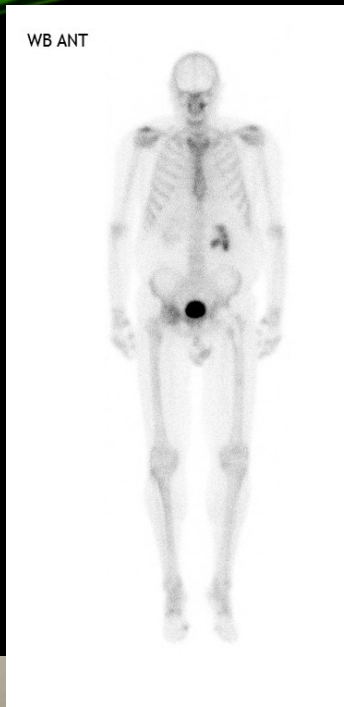
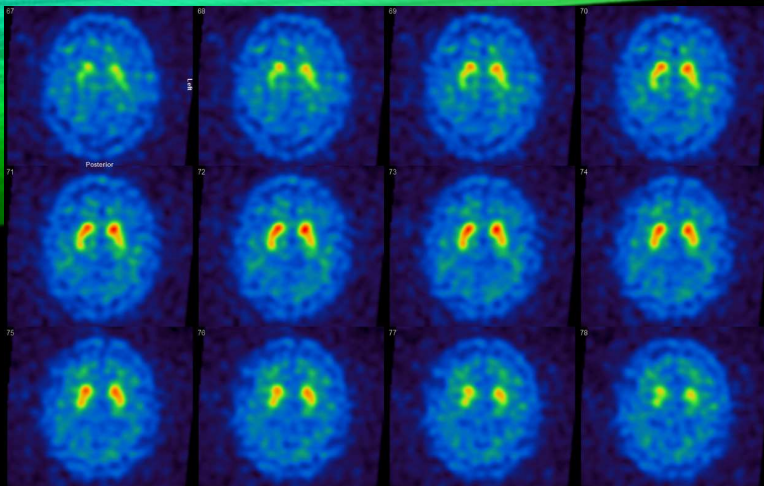




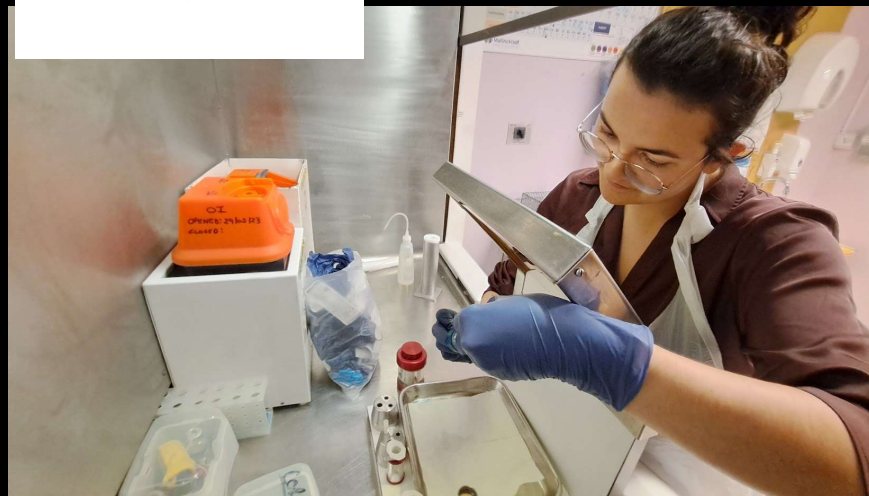
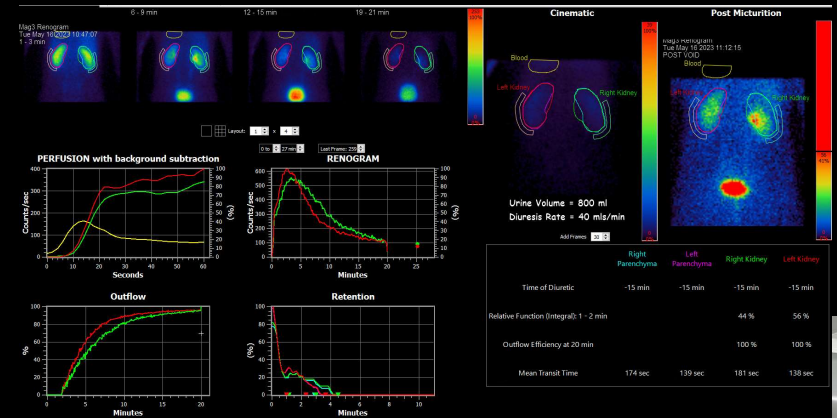
# RADIOTHERAPY





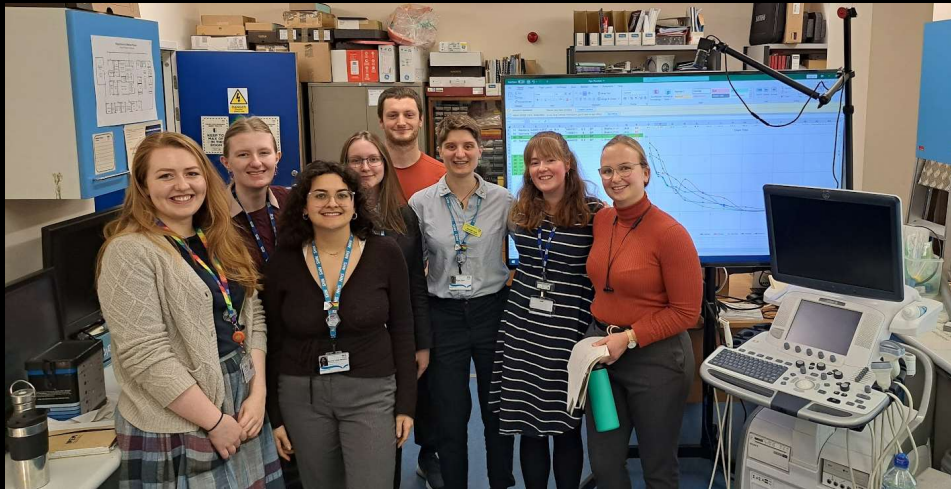


# NUCLEAR MEDICINE

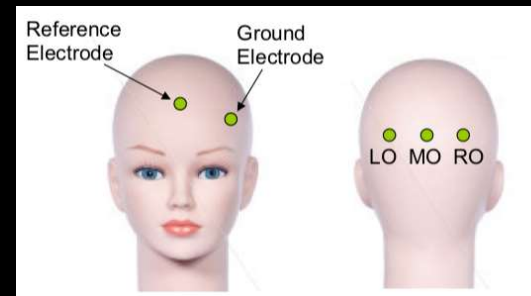


# ACQUAINTANCESHIPS

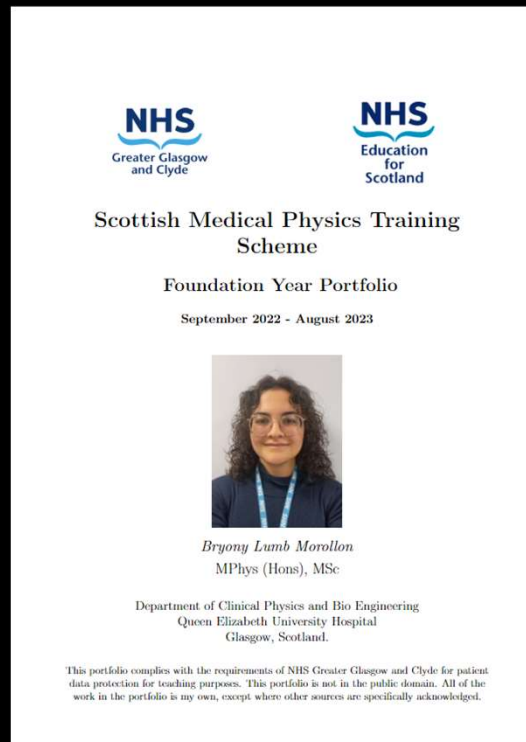
## Ultrasound



## Clinical Measurement



# FOUNDATION YEAR PORTFOLIO



- Examples of work done throughout Foundation Year:
  - 15 pages per placement (plus training plan for each)
  - 3 pages per acquaintanceship (2 weeks)
- LaTeX or Word – formatting requirements on website.
- “Best bits” – don’t need full write up, background, method, references etc.



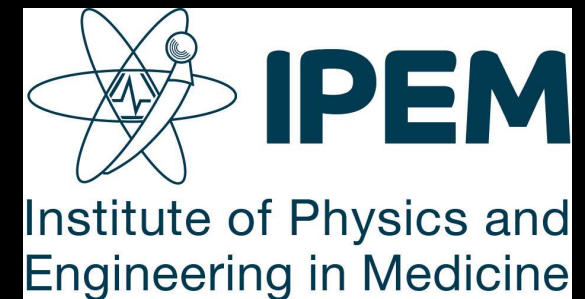
# MIDWAY QA VIVA



- Check to ensure the trainee is progressing as expected – not a pass/fail exam!
- Panel consists of 3 assessors across different specialisms covered in Foundation Year
- Questions specific to the trainee's portfolio and training plan



# CONFERENCES



# QUESTIONS?

[bryony.lumbmorollon@ggc.scot.nhs.uk](mailto:bryony.lumbmorollon@ggc.scot.nhs.uk)

