

University of Colorado Physics Residency Master Schedule 2021 - 2022

Rotation	Topics	Rotation Mentor	First Year Resident												Second Year Resident											
			July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Rotation 1: Workflow, Equipment, Dosimetry	Intro to radiation and workplace safety	Tripp (David T, Leah)	Responsible	Responsible																						
	Intro to professionalism and ethics		Responsible	Responsible																						
	Intro to equipment operation		Responsible	Responsible																						
	Intro to workflow (clinic, sim, planning, treatment)		Responsible	Responsible																						
	Dosimeters and dosimetry systems		Responsible	Responsible																						
	OSLD calibration and patient QA in vivo measurements		Responsible	Responsible																						
	Dosimeters and dosimetry systems		Responsible	Responsible																						
Patient IMRT QA measurements	Responsible	Responsible																								
Rotation 2: 3D and Advanced Treatment Planning	Communication and interpersonal skills	Kelly (Moyed, Leah)		Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	
	MU calculations			Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	
	3DCRT planning and shielding fabrication			Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	
	Physics plan and chart reviews			Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible
	IMRT and VMAT treatment planning			Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible
	TBI and TSE treatments, planning, QA, commissioning			Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible
	Physics consults (pregnancy, pacemakers, prosthesis)			Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible	Responsible
Rotation 3: SRS/SRT/SBRT Special Procedures	SRS/SRT/SBRT treatment planning, equipment, QA	David T (Kelly, Tripp)																								
	Gammaknife																									
	Motion management																									
	Linac design principles																									
Rotation 4: External Beam Machines	Beam data measurements and scanning	Cem (TBD, Jason)																								
	Beam calibration (TG-51)																									
	Small field dosimetry																									
	Quality and safety strategies																									
	Monthly quality assurance																									
Rotation 5: Brachytherapy	Annual quality assurance	Leah (Quentin, Cem)																								
	Brachytherapy sources and dose calculation																									
	HDR brachytherapy treatment, planning, QA																									
	HDR source exchange																									
	Brachytherapy commissioning																									
	LDR brachytherapy treatment, planning, QA																									
	Radioiodine and intraoperative therapy																									
Rotation 6: Clinical Projects and Emerging Topics	State and NRC regulations, radiation safety	TBD (TBD, Moyed)																								
	Hotlab QA and inventory																									
	Clinical development projects																									
	Emerging treatment planning tools (KBP, MCO, hyperarc, etc) (optional)																									
	Scripting and automation (optional)																									
	Protons and charged particle accelerators (optional)																									
	Advanced quality and safety techniques (optional)																									
Rotation 7: Imaging in Radiation Oncology	Innovations in imaging for radiation therapy (optional)	Quentin (TBD, Dave W)																								
	Clinical trials in radiotherapy (optional)																									
	Basic principles of imaging																									
	Clinical physics in radiology and nuclear medicine																									
	Radiopharmaceutical treatments in nuclear medicine																									
Rotation 8: Facility Commissioning & Treatment Planning Algorithms	Image registration workflow and algorithms	Dave W (Jason, Quentin)																								
	Image guidance equipment and workflow (IGRT, SGRT, RF beacon)																									
	Imaging QA																									
Rotation 9: Beam Modeling and Shielding	New facility commissioning	Dave W (Jason, Quentin)																								
	Linac acceptance testing and commissioning																									
	Treatment planning algorithms																									
	Beam modeling																									
Rotation 9: Beam Modeling and Shielding	TPS commissioning	Dave W (Jason, Quentin)																								
	Shielding and radiation safety																									
	Clinical physics practice																									

Key
 rotation window/observation/participation
 procedures happen rarely, so should be involved whenever they occur if possible
 responsible
 rotation presentation with Q&A
 practical skills exam
 Primary rotation mentor indicated in bold text
 Rotation assistants indicated in non-bold text in parenthesis