

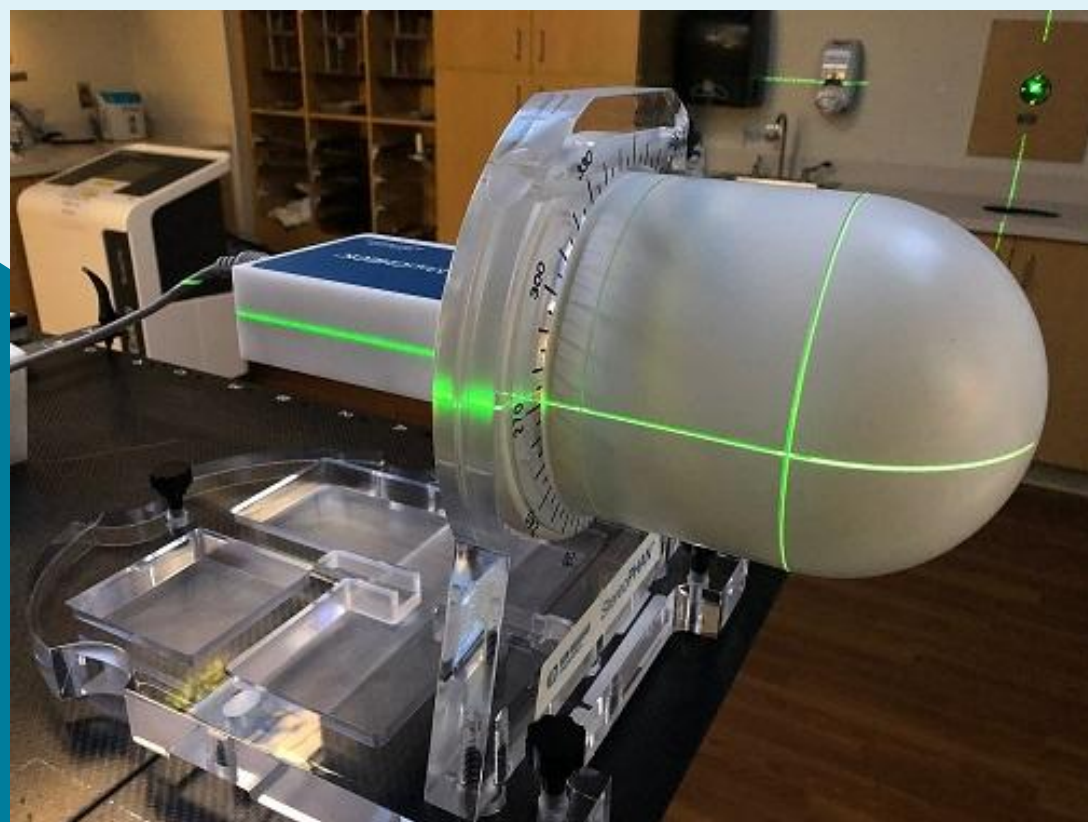
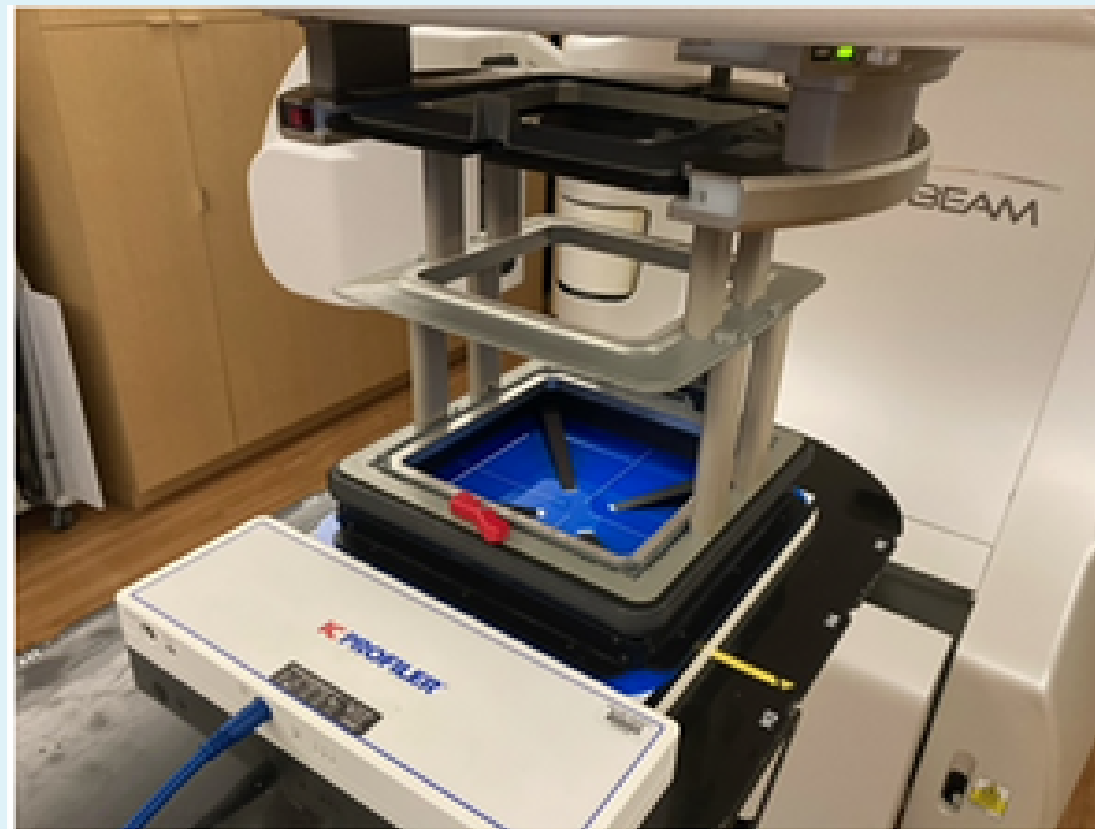
A DAY IN THE LIFE... RADIOTHERAPY PHYSICS

Emma McIntosh
Ninewells Hospital, Dundee

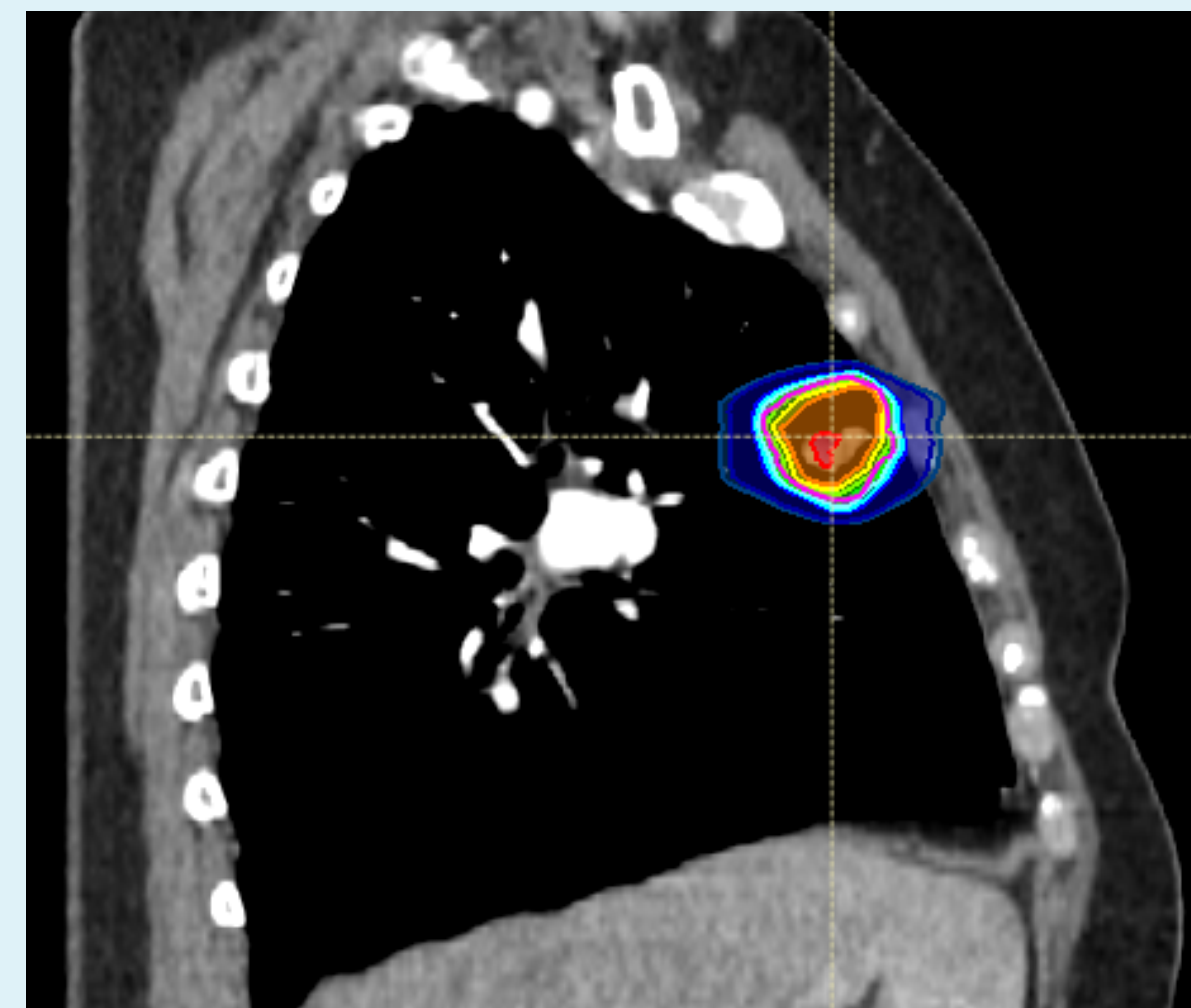
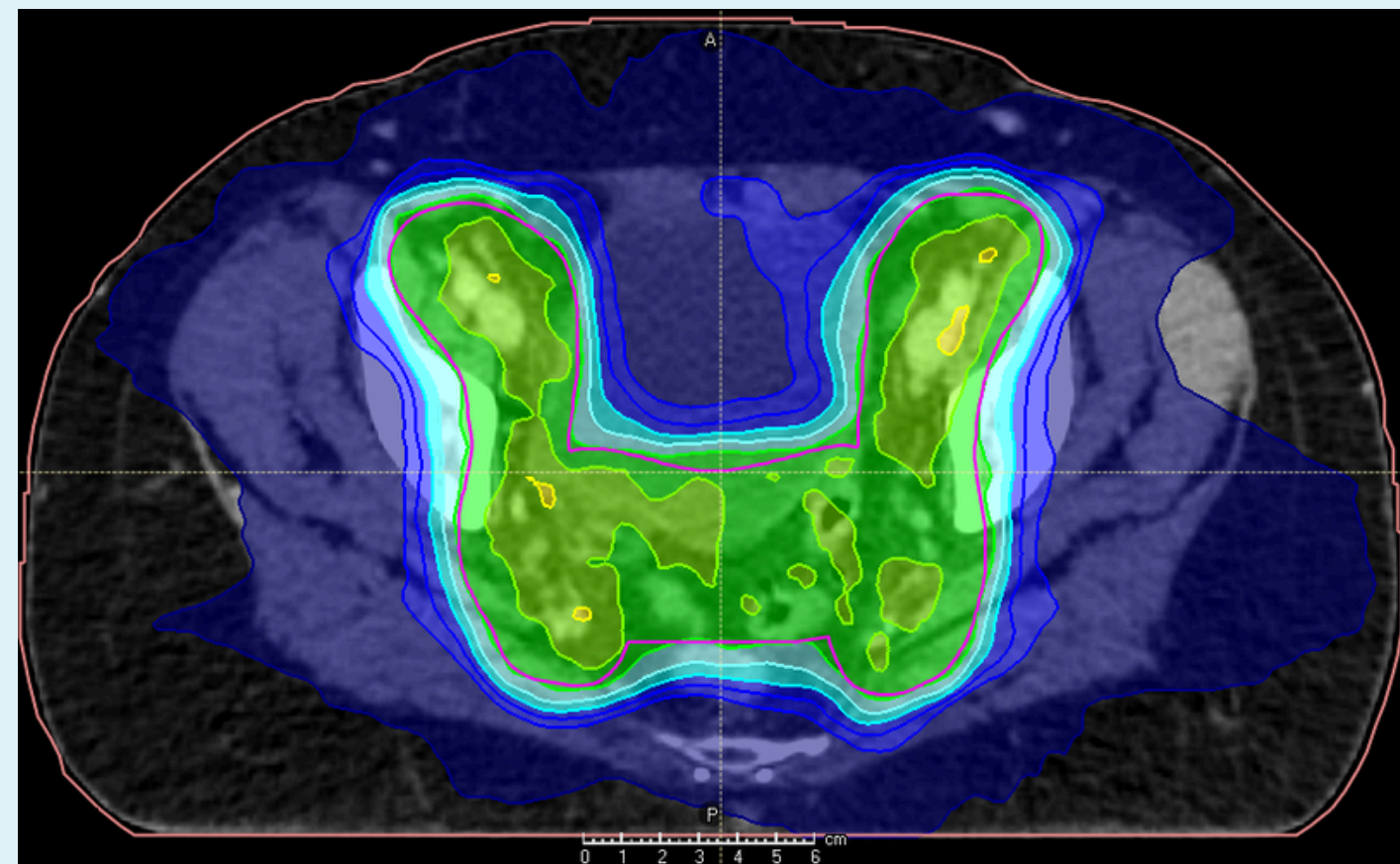
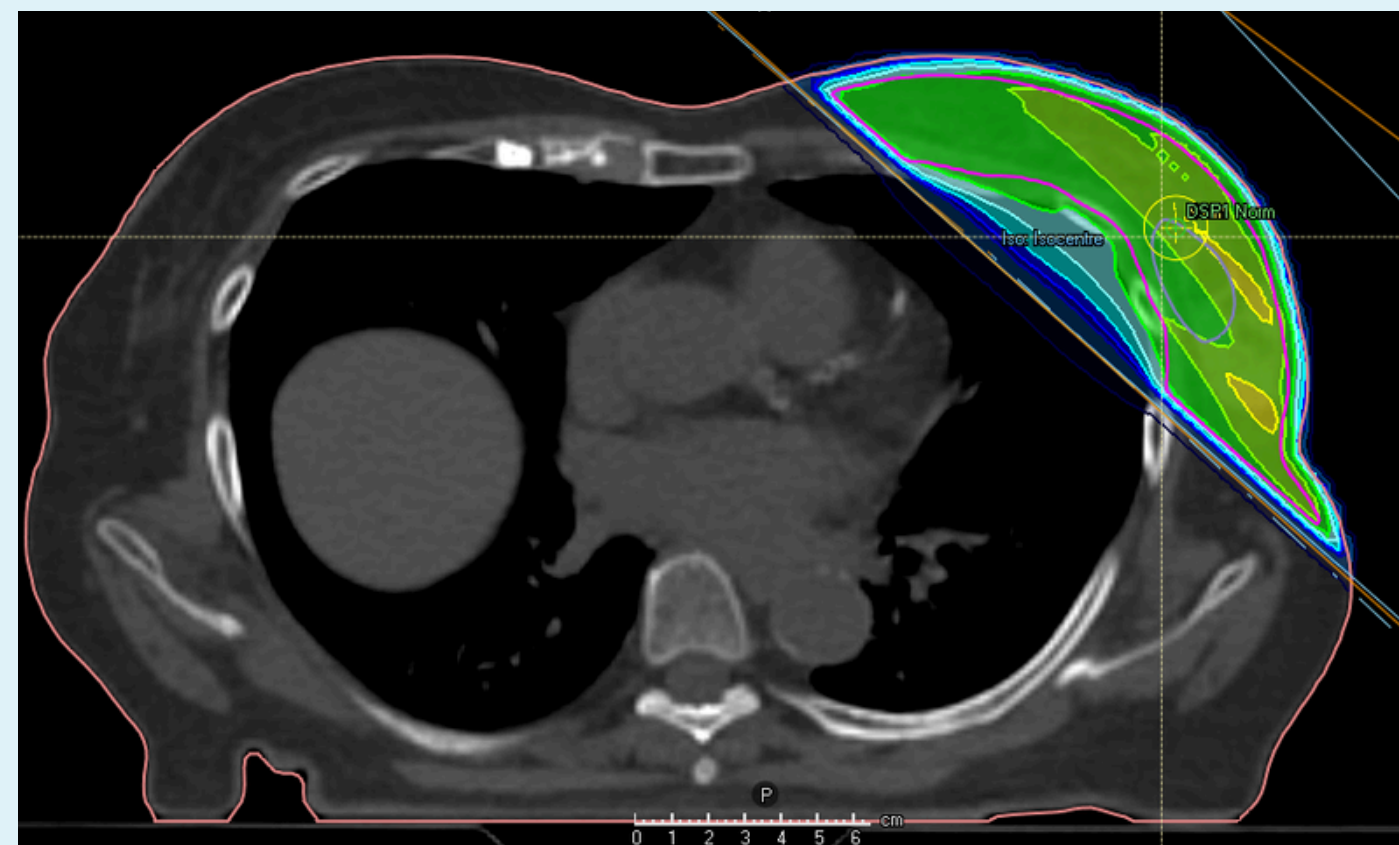
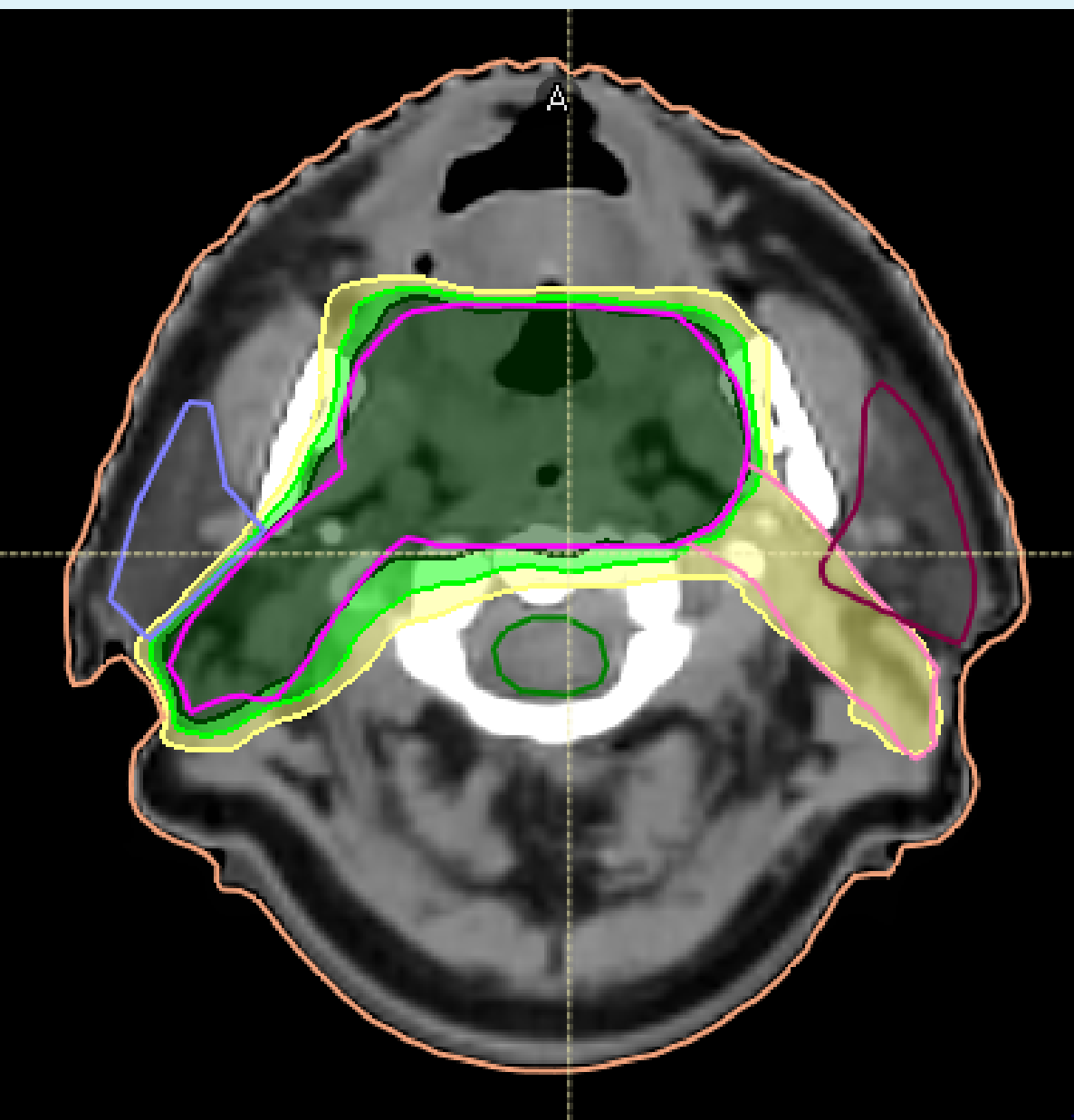
RADIOTHERAPY COVERS LOTS OF SPECIALITIES

- Quality Assurance
- Dosimetry
- Treatment Planning
- Brachytherapy
- Imaging
- Radiation Safety
- Computing

QA & DOSIMETRY



TREATMENT PLANNING



ROUTINE WORK - THE ROTA

Week Beginning	Planning			QA					Dosimetry		Brachytherapy	
	Primary	Secondary / 3DCRT	Tertiary / CBCT	RayStation	Room 2	Room 3	Room 5	CT	IMRT QC (Thurs)	SABR QC (Wed/Thur)	QC (Wed/Thur)	Plan Check (Wed/Thur)
23/12/2024	AL	MC/SB	SB/AL						CHT 23rd	CHT 23rd	SB 24th	
30/12/2024	EM	MC/MH	MC/MH						CM 30th	CM 30th		
06/01/2025	EM	SB/AE	MC		7th-9th				SB 9th	AL 8th	AE	EM
13/01/2025	MH	SB/AE	AL			14th-16th (EM/AE)		AL 14th (PMI)	MC 16th	MH 15th	EM	CM
20/01/2025	MC	EM/AE	SB	SB			21st-23rd		AE 23rd	EM 22nd	CM	SB
27/01/2025	MH	EM/AE	MC		29th (PPMI) (SB/AE)				AL 30th	CM 29th	EM	EM
03/02/2025	AL	MH	AE		4th-6th				EM 6th	SB 5th	SB	CM
10/02/2025	SB	MH	EM			11th-13th			CM 13th	MC12th	AE	MC
17/02/2025	SB	AE	AL	AL			18th-20th	CHT 20th	MC 20th	AE 19th	MC	SB
24/02/2025	MC	AE	AL			26th (Post PMI)			CHT 27th	AL 26th	CM	EM
03/03/2025	EM	AL	SB		4th-6th				SB 6th	MH 5th	EM	MC
10/03/2025	EM	AL	MC			11th-13th			AE 13th	EM 12th	SB	CM

PROJECTS, RESEARCH, SERVICE DEVELOPMENT

- Non-routine work, always changing
- RT physics can be involved with:
 - New equipment, technology, techniques
- Help to continually improve the Radiotherapy service

EXAMPLE: SGRT

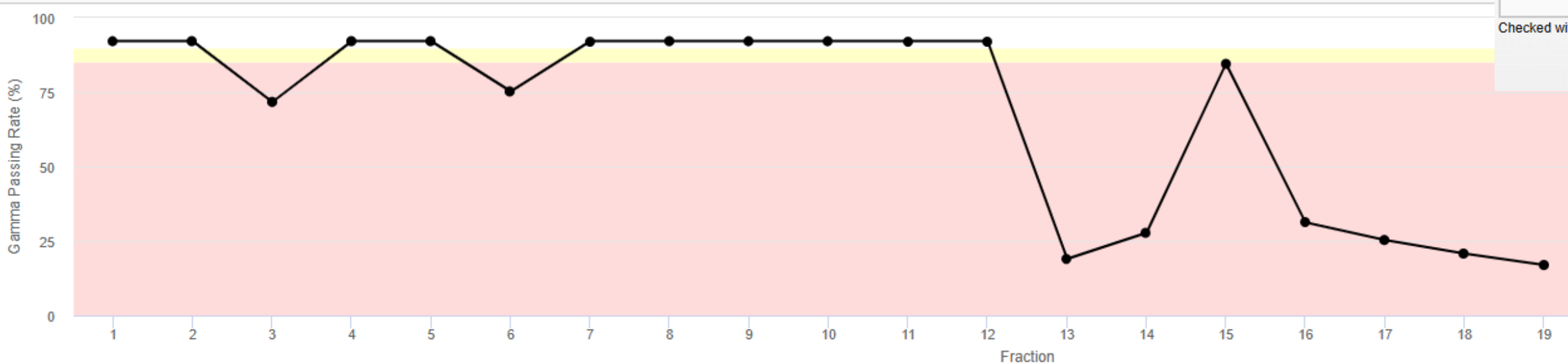
- Surface Guided Radiotherapy (SGRT)
- Uses optical cameras to monitor patient surface during set-up, imaging & treatment
- Part of MDT to commission and bring into use



EXAMPLE: MOBIUS FX

- Specialism Trainee Innovation Project
- MobiusFX Online Treatment Monitoring (OTM) software
 - Uses delivery log files from linac
- Intentionally introduce errors, evaluate sensitivity & specificity

Gamma Per Fraction ▲



☐ **Plan: Static ; 6 MV Static 28.3 Gy (Max Dose)**
Dr. Unknown; TrueBeamSN2459, 24 Fraction(s) (Ninewells)
✓ **All DICOM files received** (Plan: Fri, Jan 10, 2025, 12:29 PM) ▼
✓ **Plan Check finished.** (Fri, Jan 10, 2025, 12:45 PM) ▲
📄 **Plan Type settings applied:** Conformal

Targets	DVH Limits	3D Gamma	Deliverable	Approvals
✓	—	✓	✓	Dr. Michael Taylor

Checked with Mobius3D v4.0.2

🗑️ ⚙️ 📄 👍 Approve **View Plan Check** ➡️

🎯 **QA Check finished.** (Fri, Jan 10, 2025, 1:03 PM) ▲
📄 **Plan Type settings applied:** Conformal

Targets	DVH Limits	3D Gamma	Delivery	Approvals
✓	—	✓	✓	Dr. Michael Taylor

Checked with MobiusFX v4.0.2

🗑️ 📄 👍 Approve **View QA Check** ➡️

📈 **19 Fx Treatment Summary finished.** (Fri, Jan 10, 2025, 4:14 PM) ▲
📄 **Plan Type settings applied:** Conformal

Targets	DVH Limits	3D Gamma	Delivery	Approvals
✓	—	✗	✓	(No Approvals)

Checked with MobiusFX v4.0.2

📄 👍 Approve **View Summary** ➡️

OTHER...

- Meetings (lots!)
- Trainee support
- Conferences/courses
- Lots more.....



**THANK
YOU**