



Potential unlocked: Early experiences of AlignRT version 8

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Radiation Oncology Princess Alexandra Hospital – Ipswich Road

- 2 CT simulators (Philips & Toshiba)
- MRI simulator (Siemens Vida 3T)
- Eclipse and Velocity
- 5 linacs
 - 2 x Elekta
 - 3 x Varian TrueBeam - Fourth coming end 2026
- SGRT
 - 2 x AlignRT (almost!)
 - Third system coming end 2026
 - 2 x ExacTrac Dynamic
- Leksell Gamma Knife
- Mosaic -> Aria





Department Transition



Procurement/
Tender
2023/2024



Eclipse Clinical
Oct 2024

1st
TrueBeam
install
Feb 2025



1st
TrueBeam
clinical
May 2025
AlignRT



2nd
TrueBeam
install
Jul 2025



2nd
TrueBeam
clinical
Nov 2025
ExacTrac
Dynamic



3rd
TrueBeam
install
Mar 2026



3rd
TrueBeam
install
Jun 2026
AlignRT



4th
TrueBeam
install
Aug 2026



4th
TrueBeam
clinical
Nov 2026
AlignRT

Mosaiq

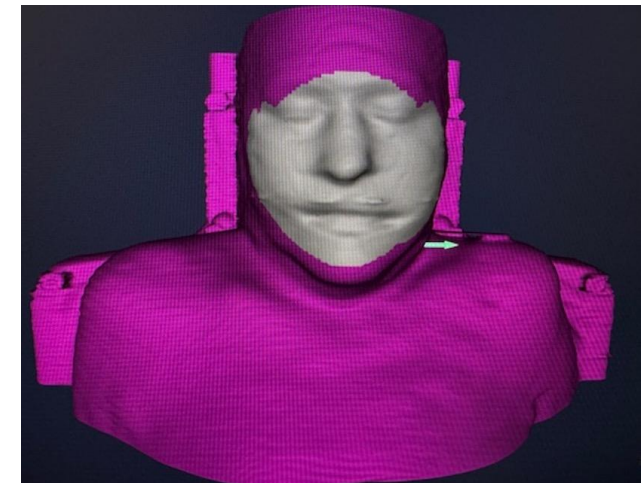


Aria



Our SGRT journey

- 1st ExacTrac Dynamic system – November 2020
 - Implemented open face masks
 - Restricted use due to single linac and linac integration
- 1st AlignRT system - May 2025
 - Installed with new TrueBeam linac
 - Use for all patients from commencement
 - Implementation of BH – October 2025
- Invited to participate in Limited Clinical Release – December 2025





AlignRT version 8 – Auto ROI

- Automatic generation of ROI when Treatment Protocol supporting Auto ROI selected at import
- Auto ROI library can't be customised but can be edited once generated on CT Sim surface
- New Auto ROIs can't be added

Protocol	Auto ROI	Number of Auto ROIs	Protocol	Auto ROI	Number of Auto ROIs
Abdomen (Lower)	Yes	4	Chest	Yes	3
Abdomen (Upper)	Yes	3	Chest Wall	Yes	3
Brain	Yes	2	Chest Wall DIBH	Yes	3
Breast (Left)	Yes	6	Intracranial SRS	Yes	2
Breast (Right)	Yes	6	Pelvis	Yes	4
Breast DIBH (Left)	Yes	6	4D Gated	Yes	3
Breast DIBH (Right)	Yes	6			

Table 1– Treatment Protocols and Auto ROI Details for Protocols which Support Auto ROI

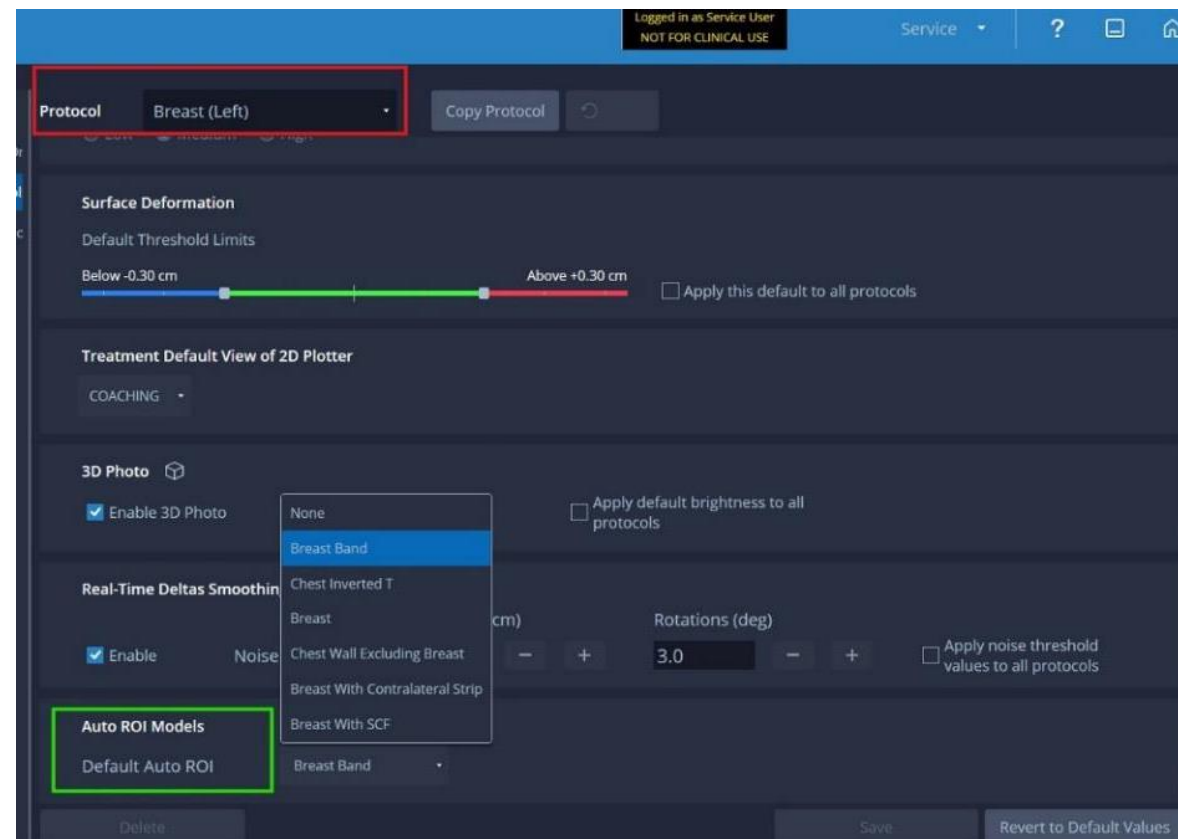
Protocol	Auto ROI	Number of Auto ROIs
<i>Extremities</i>	<i>No</i>	<i>0</i>
<i>Head and Neck</i>	<i>No</i>	<i>0</i>
<i>Other</i>	<i>No</i>	<i>0</i>
<i>SBRT</i>	<i>No</i>	<i>0</i>
<i>SCF</i>	<i>No</i>	<i>0</i>
<i>Spine</i>	<i>No</i>	<i>0</i>

Table 2 – Protocols which do not Support Auto ROI



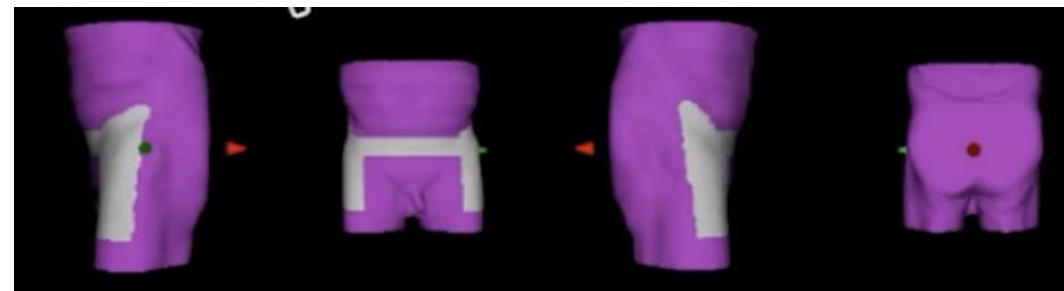
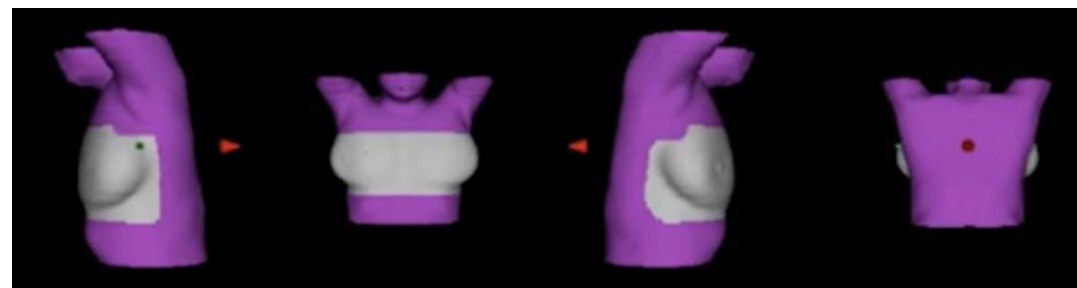
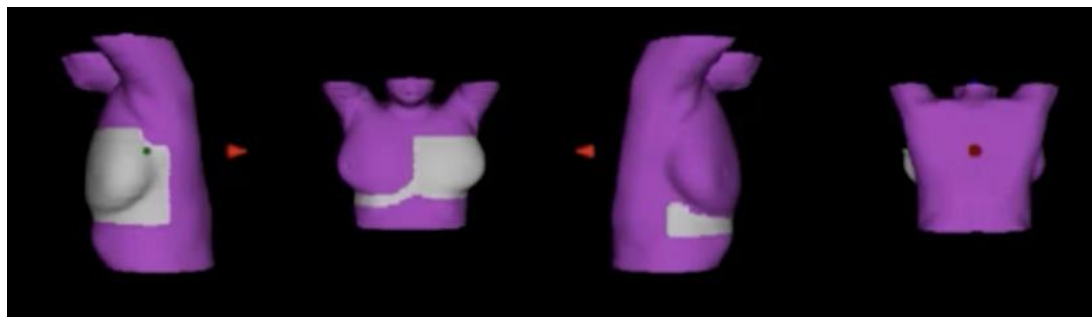
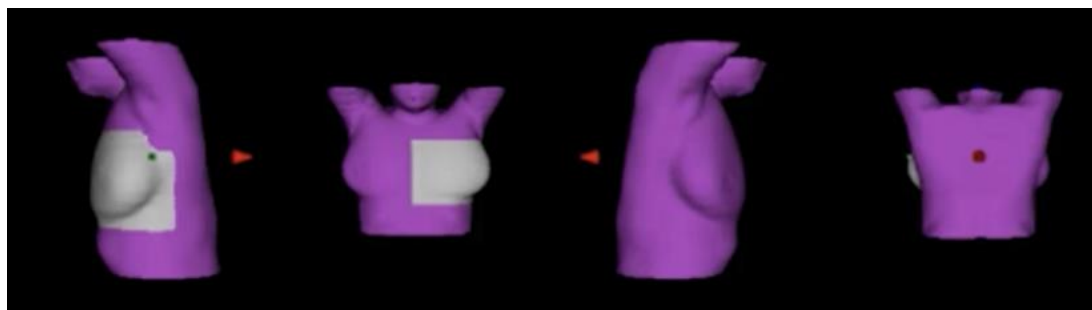
AlignRT version 8 – Auto ROI

- Treatment Protocols can be configured to default to Auto ROI of choice
- A different Auto ROI can be selected when preparing the patient
- Can manually edit the Auto ROI applied after import
- Only available for head first supine orientation





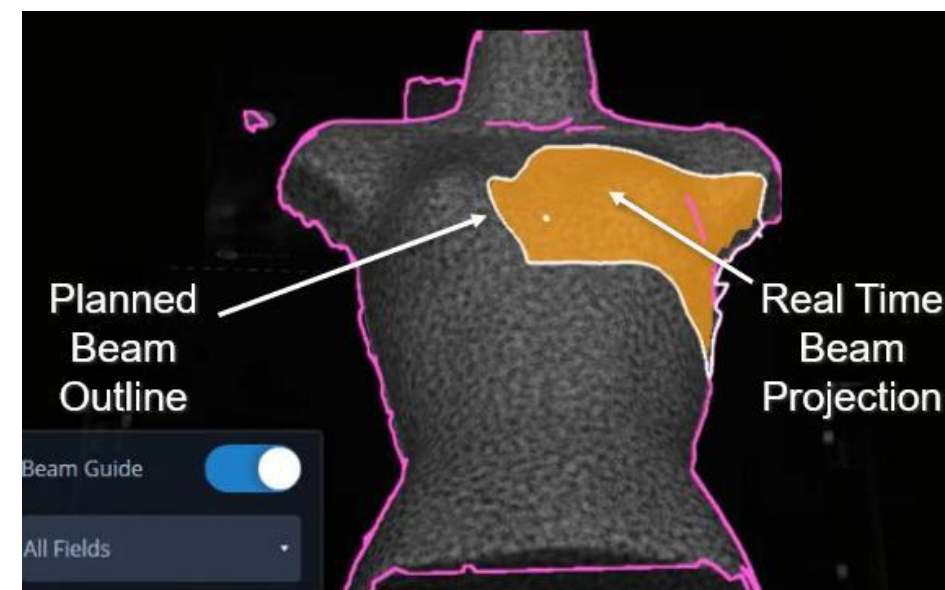
AlignRT version 8 – Auto ROI





AlignRT version 8 – Beam Guide

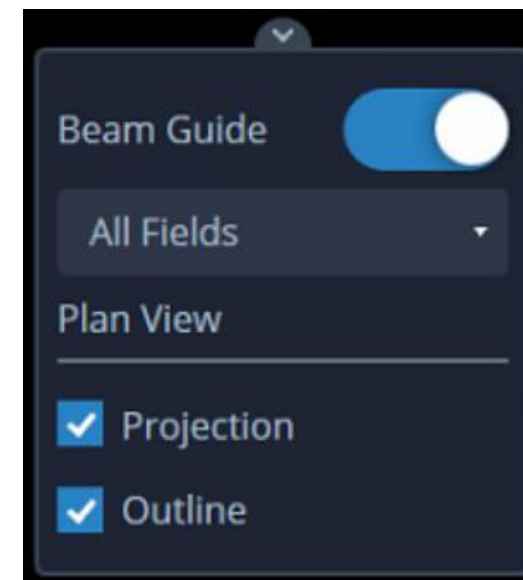
- Projects the treatment plan onto the patient's surface in video mode
 - Help assess beam alignment before treatment delivery
- Supports entrance and exit beams for 3DCRT, IMRT and VMAT
- White outline shows union of shapes of all selected fields from plan
- Orange projection displays beam position in real time on patient's surface





AlignRT version 8 - Beam Guide

- After acquiring new SGRT surface white outline does not adjust or deform based on new SGRT surface - remains in same position relative to the isocenter
 - Based on original RT plan and CT Sim surface
- Can toggle on and off
- Can select all beams or individual beams





Version 8 Limited Clinical Release

- Installation

- Cleaned active database to reduce time required
- Commenced installation after last patient one day and started clinical treatment later next day to allow Physics QA
 - Estimated installation time ~4-8 hours
- First attempt unsuccessful (December 2025)
 - Action required from both parties prior to next attempt
- Second attempt successful (January 2026)
 - Good communication between all parties important



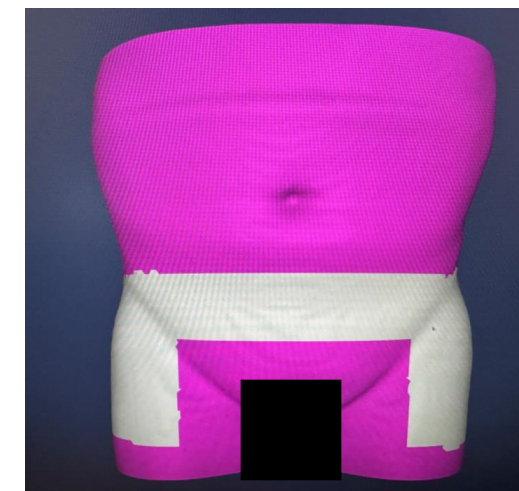
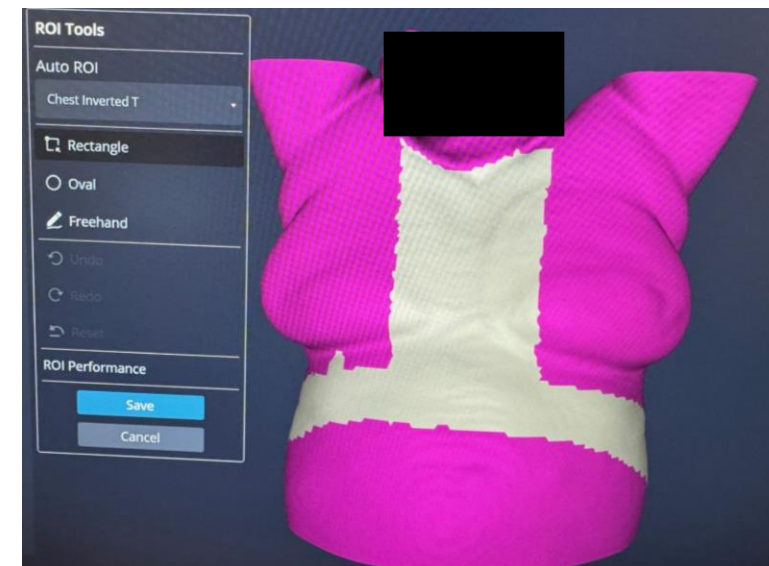
Version 8 Limited Clinical Release

- Training and support: Pre Go-Live
 - Virtual training session for RT and Physics staff
 - Upgrade and Quick Tips documentation provided
- Training and support: Post Go-Live
 - Onsite technical and clinical specialist support day after installation
 - Continual communication regarding questions and issues identified
 - Prompt follow up and investigation
- Support offered by both technical and clinical specialist teams important for staff confidence



Clinical experiences – Auto ROI

- Reviewed all options and selected default Auto ROI for relevant Treatment Protocols
- Benefits quickly realised
 - ✓ Efficiency improvements
 - ✓ Standardisation of ROI generation across staff
 - ✓ Flexibility to change Auto ROI applied at preparation stage
 - ✓ Flexibility to alter ROI in preparation

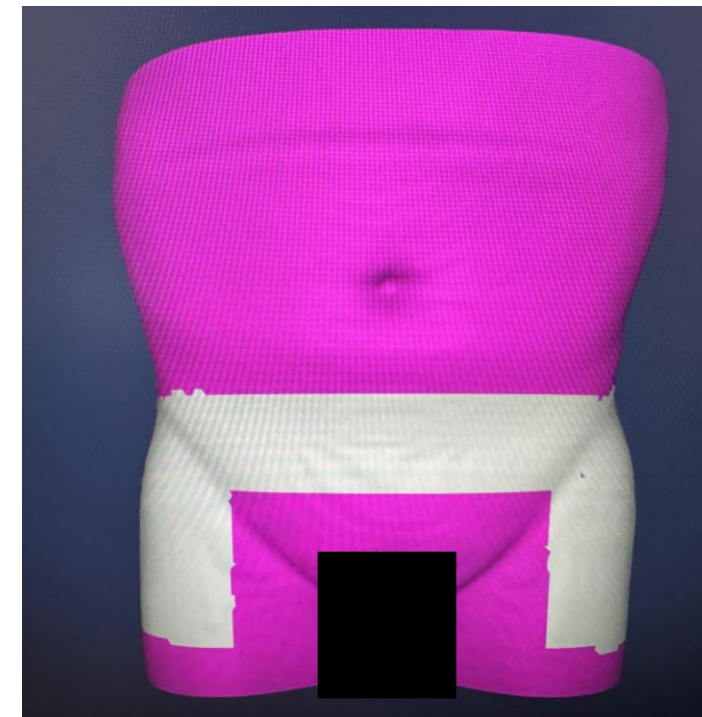
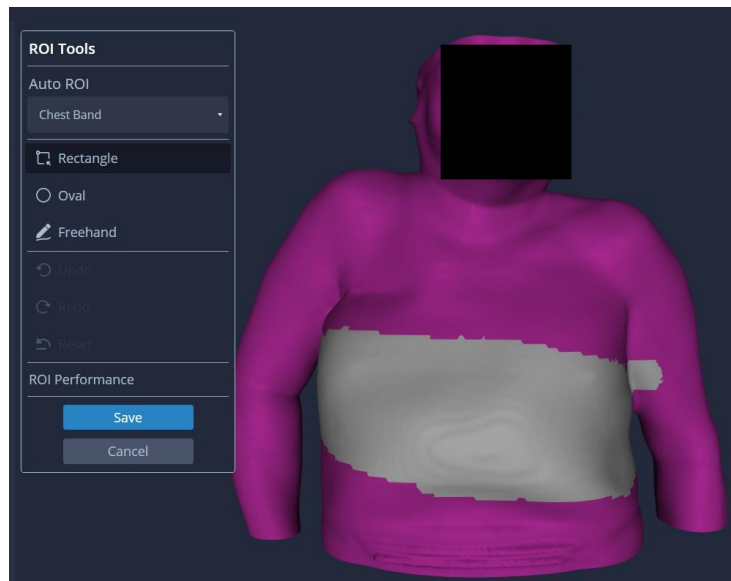
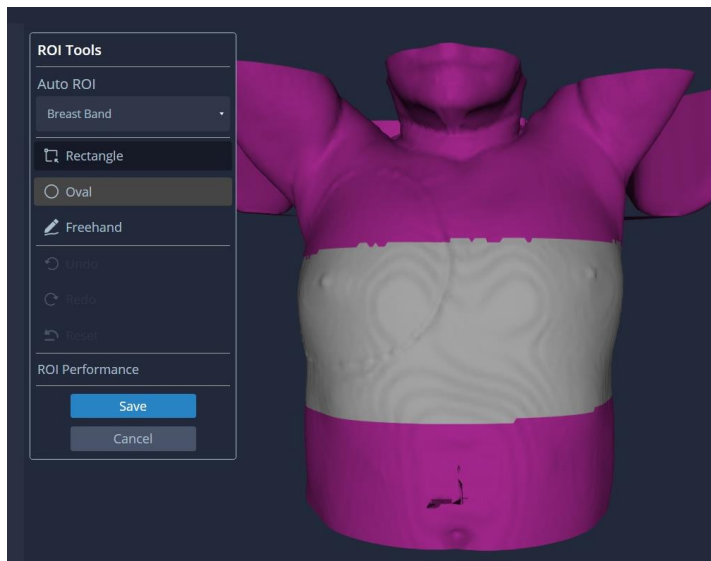




Clinical experiences – Auto ROI

- Adjustment required for some treatment sites
 - Breast Auto ROI applied slightly inferior to desired location
 - Chest band challenging due to limited topography
- Potential to add more Auto ROIs to library
 - Abdo Lower - additional Auto ROI to include more of abdominal area

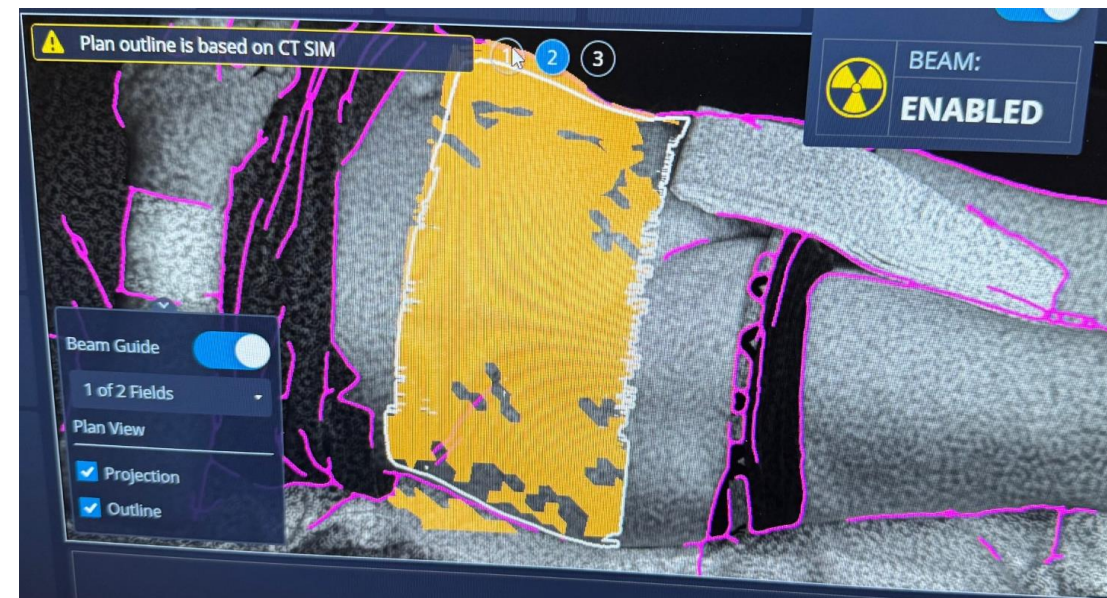






Clinical experiences – Beam Guide

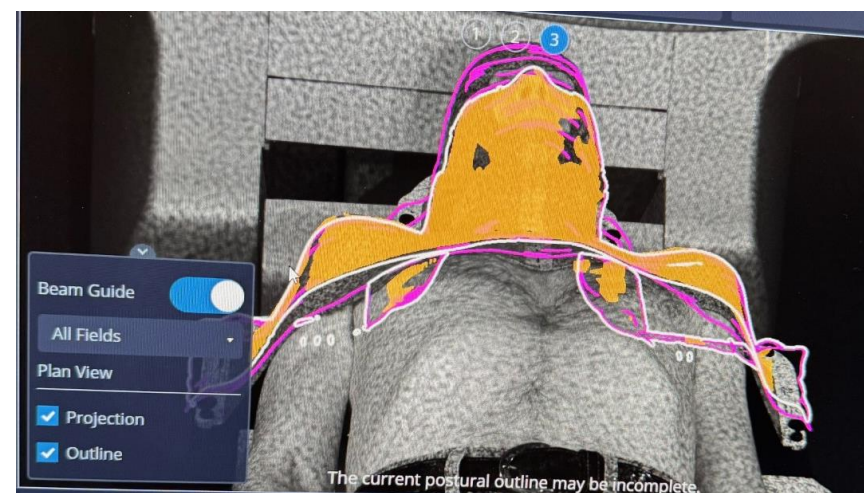
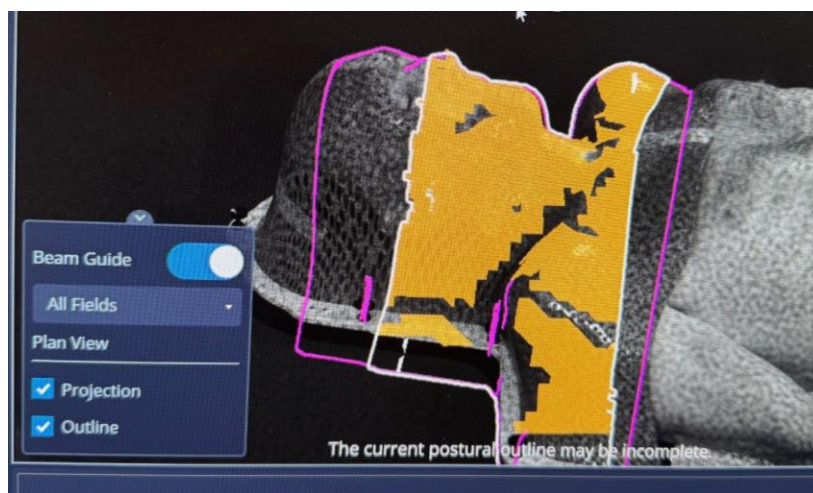
- Potential uses
 - Static field placement (3DCRT, IMRT)
 - Ensuring other body areas out of field
 - Correct field placement in adjoining sites to check overlap (e.g. bilateral breast)
 - Correct field placement in re-treatment setting





Clinical experiences – Beam Guide

- Possibility for future refinement
 - Default to 'Off' to aid in initial use of postural video
 - Differentiation between entry and exit beam
 - Real time update of CT Sim outline





Potential unlocked

- Workflow efficiencies and standardisation already realised
 - Benefits for training large numbers of new staff
- Future improvements
 - Addition of other Treatment Protocols to Auto ROI feature
 - Head and neck site
 - Inclusion of feet first supine for lower limb patients
 - Updates to Beam Guide
- Opportunity to be involved in future Limited Clinical Releases



<https://www.flaticon.com/free-icons/unlock> title="unlock icons">Unlock icons created by Dreamcreateicons - Flaticon



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