Experiences using AlignRT in Radiotherapy to the Pelvis at The Beacon, Dublin.

Implementation into practice issues: 10 Tips for successful implementation.

1. **Remove Underwear.** Underwear we would usually direct the patient to lower to mid thigh, RTs cover the genitals with modesty towel, if a patient or staff are not comfortable with this the patient could adjust the modesty towel independently. Any colostomy bag empty +/- taped up to avoid impeding the cameras visibility of the ROI.

2. **Use Indexing.** Ensure you are indexing your immobilization (footfix/kneefix).

3. **Optimize your ROI.** Make sure you are cognizant of lateral topography. Our ROI *Varies* patient to patient usually U, N, H shapes depending on patient anatomy. Use gated capture to limit the effect of abdominal breathing

4. **Capture Couch Actuals on Day 1.** We have found that some anatomies, in particular uniform pelvis/abdomen shapes make it difficult for the system to register an accurate long reading. However, after fraction 1 when you have captured your couch actuals this issue is eliminated.

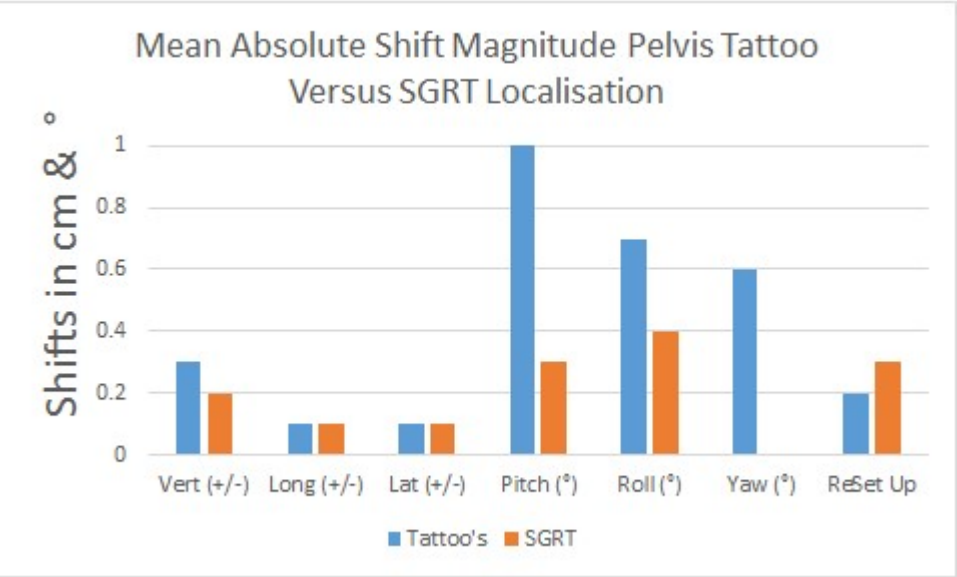
5. **Set Up a robust Training Process.** We use the same immobilization and indexing for SGRT as we had been using for non-SGRT pelvis. With the implementation of any new technique there will have to be some changes. We include SGRT training in our orientation/induction for new staff and have a competency for same. We also had workshop sessions where we got staff to play with the software and a volunteer member of staff acted as a patient to use as a trial run. This was useful to aid staff endorsement of the system.

6. **Get rid of marks and tattoos.** Through the removal of tattoos and marks in implementing SGRT for pelvis patients, our team have found a reduction in manual handling. We request the patient "move hips to the left/right" for example eliminating the necessity to rotate the patient manually.

7. **Use the Intra-fraction Monitoring as your 3rd Eye.** Yes, the target moves but this system allows us to monitor intra-fraction motion to sub-millimeter accuracy that could not possibly be seen on CCTV. Our team look at the system as a 3rd eye that is looking at the patient at all times when we might not be able to, for example when we leave the room the patient can easily move while we are in the maze, or reviewing the images, or applying the shifts, SGRT will pick up this movement.

8. **Perform an Audit.** For prostate we performed an audit to compare absolute shift magnitude OBI results set up using tattoos 10 patients from 2018 and set up using SGRT (VisionRT) 10 patient June 2019. The audit we conducted showed comparable translations but a clear improvement in postural rotation values.

Audit Results



9. **Record references as a precaution.** At CT Sim we still we still apply BB stickers and record references as a precaution. The measurements we take are distance from ROP/VC and TTH.

10. **Embrace Change.** Overall we have found the system to have excellent reproducibility of reference position with minimal OBI shifts, increased efficiency and verification time. In addition it has resulted in a reduction of manual handling reported by staff, alongside reduced wrist and back pain.

Marie Coffey. Clinical Specialist Radiation Therapist, Beacon Hospital, Dublin, Ireland