



IGRT for SABR Lung

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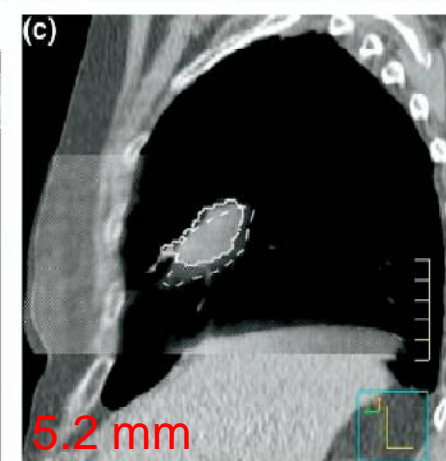
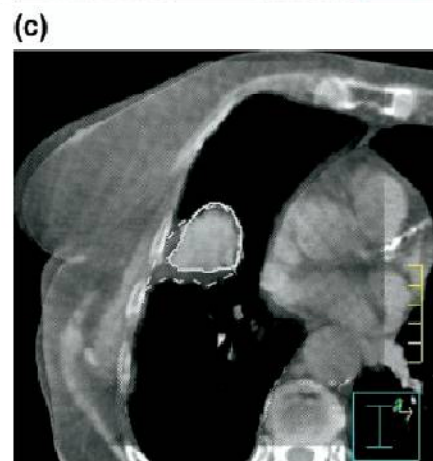
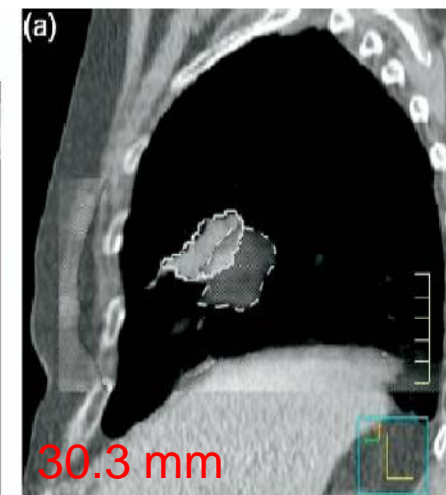
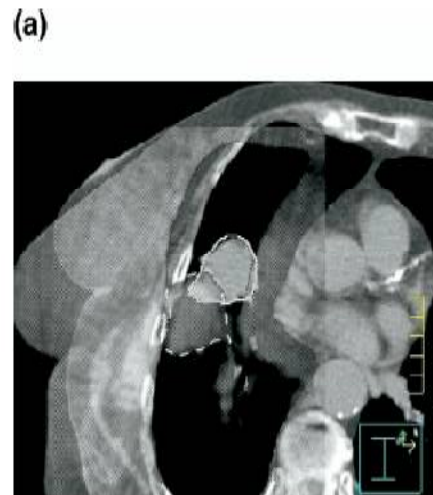
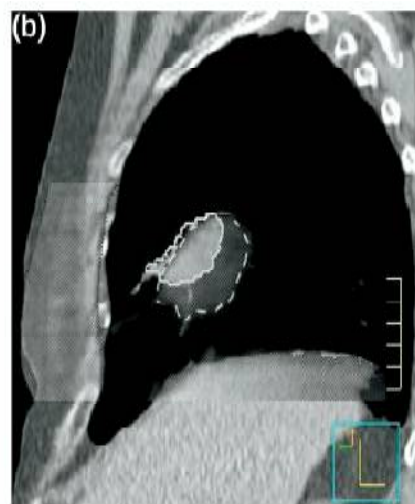
- Image guidance (IGRT) is an integral part of the pathway for SABR lung:
 - Precise delineation of tumour volumes
 - Quantification of tumour motion
 - **Delivering a high dose per fraction to a moving target, with steep dose gradients and small margins, with a high level of confidence**

Verification (Day 0)



- Verify patient set-up procedure
- Check patient can maintain treatment position
- Check that respiratory motion is consistent with planning (tumour remains within PTV)
- If available, use respiratory correlation to verify margin adequacy
- Confirm beams are deliverable
- Don't treat

Bone vs. Tumour Match



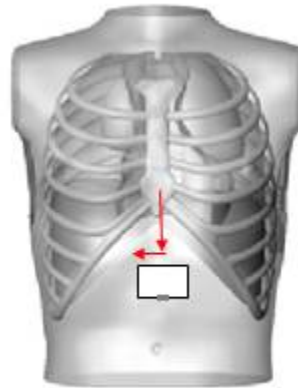
Set up patient

Enable coaching (if required)

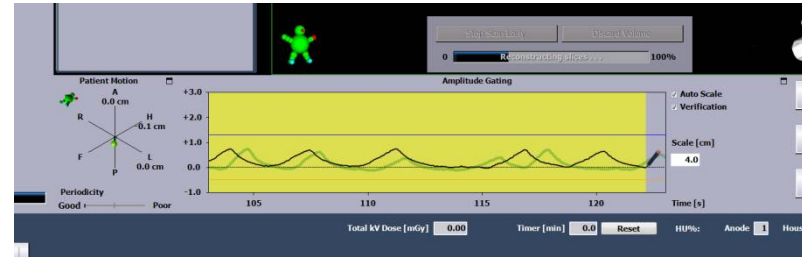
Verify breathing trace

Acquire 4D-CBCT

3D online PTV match



4D-CT with 4D-CBCT: Typical Workflow

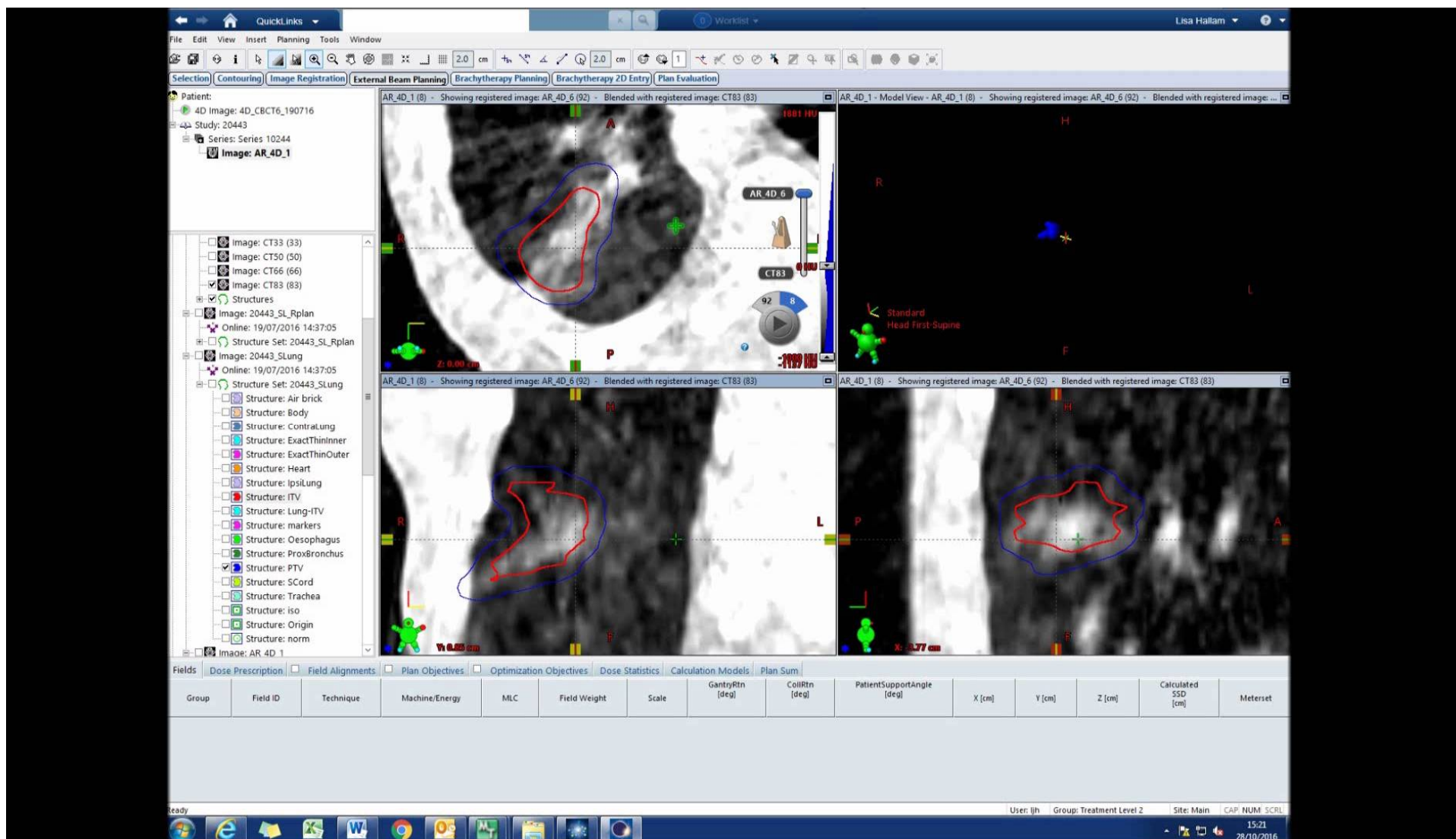


Apply shifts

Verify shifts

Verify motion using
gated fluoroscopy
(gated patients
only)

Review 4D
CBCT offline –
verify motion



X1: 7.5
Y1: 9.9
Y2: 0.2
Vedge: edw 60
Bolus: No
Compensator: No



R



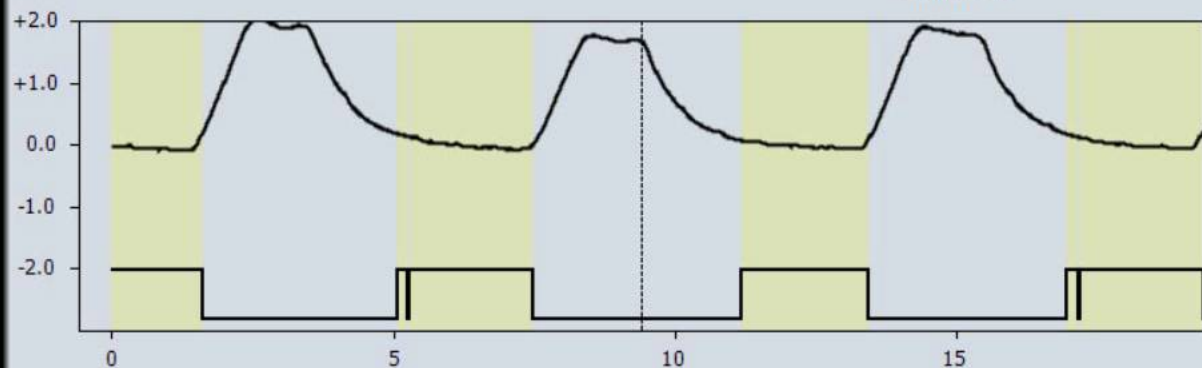
F



00:05.38 [min:sec.cs]

Speed: 1x

Amplitude



- ☐ Auto Scale
- ☐ Verification
- ☐ Residual Motion

Scale [cm]

4.0

Beam Enabled

Beam Hold

Time [s]

Duty Cycle [%] 39.4

Gated Motion [cm] 0.3

Inspiration [s] 2.0

Expiration [s] 4.0

Acknowledgements



- Thank you to The Clatterbridge Cancer Centre and Varian Medical Systems
 - IGRT and Motion Management Clinical School



ANY
questions?