

Instructions in red with respect to development of the form in the online database:

- Form to be entered one time per subject post-treatment.
- Numerical values formatted xx.x unless otherwise specified.
- Specified numeric ranges are inclusive.
- This form can be separated into sections. The user should be able to click on a link to go directly to any of these sections to begin data entry.
 - Simulation
 - Targets
 - Treatment Planning
 - Treatment Delivery and Image Guidance
- It is possible that different users at an institution will fill out this form. For example, a physicist and dosimetrist may fill out different parts of the form.

Simulation

1. Which lung has the primary tumor?
 - ₁ Right
 - ₂ Left
2. Select the primary method used to assess the motion of the tumor and organs-at-risk during **simulation**.
 - ₁ 4DCT
 - ₂ Slow CT
 - ₃ Scans at multiple breath hold states
 - ₄ Fluoroscopy
 - ₅ Motion not assessed
 - ₆ Other. Please specify: _____

Targets

3. Which modalities were used for target delineation? Only choose datasets which were registered and fused to the treatment planning scan. Check all that apply.
 - ₁ CT
 - ₂ Diagnostic CT
 - ₃ PET
 - ₄ MRI
4. How was motion accounted for during the treatment of this patient? Check all that apply.
 - ₁ ITV approach: no motion control technique was applied, but the target volumes were designed to account for breathing motion (using 4DCT, scans at multiple breath hold states, slow CT, etc.)
 - ₂ Voluntary breath hold without a device
 - ₃ Breath hold with a device (ABC, SDX, etc.)
 - ₄ Gating of radiotherapy (RPM, AlignRT, etc.)
 - ₅ Abdominal compression
 - ₆ Motion was not taken into account while designing volumes or by a motion management technique
 - ₇ Other. Please specify: _____
5. What was the reason for not considering motion in accordance with the MROQC target delineation guidelines? [If Q4 = "Motion was not taken into account..."]
 - ₁ 4DCT is not available at treating institution
 - ₂ Use of slow CT was not feasible, due to time constraints or experience with technique
 - ₃ Other. Please specify: _____

6. Was motion considered in the delineation of target volumes? [If Q4 = "Other. Please specify:"]
₁ Yes
₂ No
7. Was a GTV or IGTV structure contoured?
₁ Yes
₂ No
8. Select the name of the GTV structure: [If Q7 = "Yes"] [Drop-down menu: GTV, GTVp, IGTV, Other. Please specify:]
9. Was a CTV or ICTV structure contoured?
₁ Yes
₂ No
10. Select the name of the CTV structure: [If Q9 = "Yes"] [Drop-down menu: CTV, CTVp, CTV_High, ICTV, Other. Please specify:]
11. What is the approximate margin between the GTV structure and CTV structure in cm? [If Q7 = "Yes" and Q9 = "Yes"] _____ cm
12. Was a PTV structure contoured?
₁ Yes
₂ No
13. Select the name of the PTV structure: [If Q12 = "Yes"] [Drop-down menu: PTV, PTVp, PTV_High, Other. Please specify:]
14. What is the approximate margin between the CTV structure (or GTV structure if CTV structure was not defined) and PTV structure in cm? [If Q12="Yes"] _____ cm

Treatment Planning

15. Do any of these structures overlap with a 2 cm expansion of the PTV? Check all that apply.
₁ Spinal cord ₄ Brachial plexus
₂ Heart ₅ Other structure of interest. Please specify: _____
₃ Esophagus ₆ No, the PTV is greater than 2 cm from all other structures
16. Select the number of plans treated _____ [Drop-down menu: 1-10]
17. For each plan, specify:
 [The user should be able to complete this process for as many plans as were indicated in Q16]
- a) Planning type
₁ Forward planning
₂ Inverse planning

Note: Inverse planning assumes computer-assisted plan optimization using an objective function.

- b) Dose **delivered** with this plan (Gy) _____ [between 1 and 90]
- c) Number of fractions **delivered** with this plan _____ [between 1 and 40]
- d) Was the patient treated BID?
₁ Yes
₂ No
- e) Reason for plan
₁ Initial
₂ Planned Boost
₃ Planned Adaptation
₄ Unplanned Modification
- f) If not initial, what was the reason? [if Q17e = "Planned Adaptation" or "Unplanned Modification"]
₁ Minimize dose to critical structures (e.g. off-cord or off brachial plexus boost)
₂ Patient anatomy change (e.g. lung inflation, pleural effusion change)
₃ Change in motion management strategy
₄ Other. Please specify: _____
- g) Was this plan considered SBRT?
₁ Yes
₂ No
- h) Did this plan include a concomitant boost? [if Q17e = "Initial" and Q17g = "No"]
₁ Yes ₂ No
- i) Did the patient receive all of the planned dose?
₁ Yes
₂ No
- j) If no, enter **planned** dose: _____ Gy [If Q17i = "No"] [between 1 and 90]
- k) If no, enter **planned** number of fractions: _____ [If Q17i = "No"] [between 1 and 40]

Treatment Delivery and Image Guidance

18. What type of imaging was used to verify this patient's setup?

- ₁ kV/MV portal
₂ CT (CBCT or TomoTherapy CT)
₃ Films
₄ Video-based system
₅ Other. Please specify: _____



LUNG Radiotherapy Technical Details Form

To be completed by Dosimetrist or Physicist

19. For each imaging type, specify how often the patient was imaged during treatment. [Provide drop-down menu for each response selected in Q18]

₁ Daily

₃ Less than daily but more than weekly

₂ Weekly

₄ Other. Please specify: _____