



Institutional Physics Assessment Form

(To be collected annually from physics staff)

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

- Form to be entered one time per year per institution.
- Numerical values formatted xx.x unless otherwise specified
- After we receive feedback from the collaborators, we may need to add additional response options if we find that an institution is using standard equipment that is not reflected on the form.
- This form can be divided into separate sections. The user should be able to click on a link to go directly to any of these sections to begin data entry. The user should also be able to save each section individually in addition to a separate final submission of the entire form.
 - Technology
 - Lung Specifics
 - Breast Specifics
 - Bone Metastasis Specifics
 - Prostate Specifics
- 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.
- After the user chooses to finish and submit the form, they should be shown a page with their responses listed. They should be prompted to review their response before the final submission of the form.



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Questions about access to technology:

1. Does your institution have 4DCT capabilities on its CT simulator?
₁ Yes ₂ No
2. Which IROC-Houston (formerly known as Radiological Physics Center) phantoms has your institution passed for credentialing? Check all that apply.
₁ SRS Head ₅ Proton Spine
₂ Proton Brain ₆ Thorax-Lung
₃ Head and Neck ₇ Liver
₄ Spine ₈ Pelvis/Prostate
3. Does your institution have six degrees of freedom couch control?
₁ Yes ₂ No
4. Which online adaptive radiotherapy modalities are available at your institution? Check all that apply.
₁ None
₂ MRI-guided (i.e. ViewRay MRIdian, Elekta Unity, etc.)
₃ CBCT-guided (i.e. Varian Ethos)
₄ Other. Please specify: _____



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5. Enter information about your treatment planning systems and algorithms for patient treatment planning.

System	Version number	Planning Method (check all that apply)	Photon Algorithm (check all that apply)	Electron Algorithm (check all that apply)
Elekta	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Convolution/Superposition <input type="checkbox"/> ₂ Monte Carlo <input type="checkbox"/> ₃ Pencil Beam <input type="checkbox"/> ₄ Other. Please specify: ____	<input type="checkbox"/> ₁ Hogstrom Pencil Beam <input type="checkbox"/> ₂ Monte Carlo <input type="checkbox"/> ₃ Other. Please specify: ____
Nucletron	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Convolution/Superposition <input type="checkbox"/> ₂ Monte Carlo <input type="checkbox"/> ₃ Pencil Beam <input type="checkbox"/> ₄ Other. Please specify: ____	<input type="checkbox"/> ₁ Hogstrom Pencil Beam <input type="checkbox"/> ₂ Monte Carlo <input type="checkbox"/> ₃ Other. Please specify: ____
Philips Pinnacle	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Collapsed Cone Convolution Superposition <input type="checkbox"/> ₂ Other. Please specify: ____	<input type="checkbox"/> ₁ Hogstrom Pencil Beam <input type="checkbox"/> ₂ Monte Carlo <input type="checkbox"/> ₃ Other. Please specify: ____
RaySearch RayStation	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Convolution/Superposition <input type="checkbox"/> ₂ Other. Please specify: ____	<input type="checkbox"/> ₁ Monte Carlo <input type="checkbox"/> ₂ Other. Please specify: ____
TomoTherapy Hi-ART	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Convolution/Superposition <input type="checkbox"/> ₂ Other. Please specify: ____	
Varian Eclipse	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Acuros <input type="checkbox"/> ₂ Anisotropic Analytical Algorithm (AAA) <input type="checkbox"/> ₃ Pencil Beam <input type="checkbox"/> ₄ Other. Please specify: ____	<input type="checkbox"/> ₁ Hogstrom Pencil Beam <input type="checkbox"/> ₂ Monte Carlo <input type="checkbox"/> ₃ Other. Please specify: ____
Other. Please specify:	<input type="checkbox"/> ₁ <input type="checkbox"/> ₂	<input type="checkbox"/> ₁ 2D <input type="checkbox"/> ₂ 3D <input type="checkbox"/> ₃ Inverse-planned	<input type="checkbox"/> ₁ Please specify: ____ <input type="checkbox"/> ₂ Please specify: ____ <input type="checkbox"/> ₃ Please specify: ____	<input type="checkbox"/> ₁ Please specify: ____ <input type="checkbox"/> ₂ Please specify: ____



For lung cancer patients:

6. Does your institution have the capability to use intravenous contrast during CT simulations?
₁ Yes ₂ No
7. Is intravenous contrast used for simulation of lung cancer patients? [if Q6="Yes"]
₁ Yes ₂ No ₃ Sometimes
8. Specify which, if any, biological parameters are considered in treatment planning. Check all that apply.
₁ NTCP ₂ EUD ₃ Other. Please specify: _____ ₄ None
9. Please specify the motion management techniques typically used for treatment delivery at your institution for non-SBRT lung cancer patients. Check all that apply.
- | | |
|---|--|
| <input type="checkbox"/> ₁ Gating of radiotherapy (RPM, AlignRT, etc.) | <input type="checkbox"/> ₅ Abdominal compression |
| <input type="checkbox"/> ₂ Breath hold with device (ABC, SDX, etc.) | <input type="checkbox"/> ₆ No special instruction |
| <input type="checkbox"/> ₃ Voluntary breath hold without device | <input type="checkbox"/> ₇ Other. Specify: _____ |
| <input type="checkbox"/> ₄ ITV to account for motion, free breathing | |



For breast cancer patients:

10. Please specify any immobilization of the breast that may be used.

- ₁ No special immobilization ₄ Patient's bra (__mm)
₂ Thermoplastic material (__mm) ₅ Custom bra (__mm)
₃ Breast cup (__mm) ₆ Other. Please specify:

11. Specify any methods typically used to assess motion of the breast and organs-at-risk. Check all that apply.

- ₁ 4DCT ₄ Fluoroscopy
₂ Slow CT ₅ Not determined. Flash to ensure coverage
₃ Scans at multiple breath hold states ₆ Other. Please specify: _____

Note: Slow CT is defined as a CT imaging technique that involves an x-ray source rotating around a patient in a shallow breathing state with the scan parameters set to capture the motion of the target. See Lagerwaard et al IJROBP 51: 932-937, 2001 for more details on this technique.

12. Does the physician typically mark clinical borders on the patient at the time of simulation?

- ₁ Yes ₂ No

13. Enter the criteria for adjusting breast cancer patient position based on imaging information: _____ cm



For bone metastases patients:

14. For spine SBRT treatment, select any modalities used for spinal cord definition at your institution:

- ₁ MRI. Specify typical margin on spinal cord when MRI is used: ___ mm
- ₂ CT myelogram. Specify typical margin on spinal cord when CT myelogram is used: ___ mm
- ₃ CT. Specify typical margin on spinal cord when CT is used: ___ mm
- ₄ N/A



For prostate cancer patients:

15. Indicate typical prostate cancer patient position. Check all that apply:

- ₁ Supine ₃ Decubitus
₂ Prone ₄ Other. Please specify: _____

16. Indicate typical patient immobilization. Check all that apply:

- ₁ Custom cradle ₃ No immobilization
₂ Evacuated bean bag ₄ Other. Please specify: _____

17. Indicate typical patient bladder characteristics for simulation:

- ₁ Full bladder
₂ Empty bladder
₃ No special instructions

18. Indicate typical patient rectal characteristics for simulation:

- ₁ Empty rectum
₂ Bowel prep
₃ Rectal balloon
₄ No special instructions

19. What type of real-time guidance is available? Check all that apply.

- ₁ Real-time kV tracking (such as based on fiducials)
₂ MR guidance during treatment
₃ Calypso radiofrequency system
₄ kV triggered imaging. Specify interval: _____
₅ Other. Please specify: _____
₆ None

20. Gating type for real-time guidance: **[if Q19 not "None"]**

- ₁ Automatic
₂ Manual

21. Enter the criteria for adjusting prostate cancer patient position based on imaging information: _____ cm