

# Virtual Disease Specific Education for Incoming First-Year Radiation Oncology Residents



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## PURPOSE / OBJECTIVE(s)

Due to limited clinical exposure to the field of radiation oncology in medical school, first-year radiation oncology residents lack confidence in their knowledge on principles of cancer care which may reflect in their first months of radiation oncology training. Initiatives such as Introductory Radiation Oncology Curriculum (IROC) were developed to mitigate such issues, however the focus on the basics of radiation oncology care have not been implemented consistently in first-year residency orientation.

We sought to explore the comfort level on **key aspects of cancer treatment in first-year radiation oncology** residents at the beginning of training through integrating sub-site disease lectures.

## MATERIAL & METHODS

- First-year residents watched 10-hours of disease-specific lectures on [www.radoncvirtual.com](http://www.radoncvirtual.com) which covered topics introductory topics in breast, head and neck, central nervous system, pediatric, gastrointestinal, genitourinary, gynecological, lymphoma/hematology, and lung cancers.
- Pre-module surveys were administered before the online modules and post-module surveys given shortly after the virtual lectures.
- Each survey item was rated on a Likert scale from 1 to 5 (1=least comfortable, 5= most comfortable).
- Man-Whitney U test was used to analyze changes in the pre-test and post-test modules. All tests were 1-sided with statistical significance determined at **p<0.05**.

## RESULTS

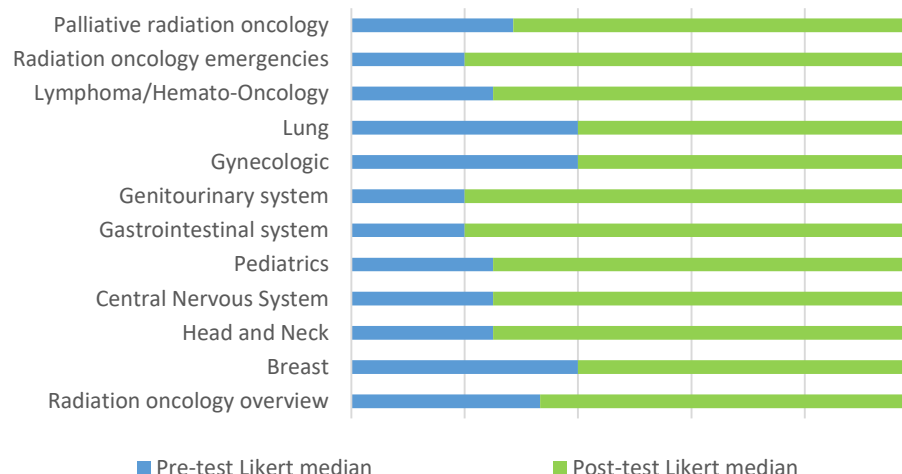
- Nineteen first-year radiation oncology residents responded to the virtual education surveys.
- 16 (84%) completed the pre-test, and 6 (35%) completed the post-test survey.
- Prior to online training, first-year residents reported an average median comfort level of **1(IQR 1.25)** on the pre-test survey.
- Residents were least comfortable pre-test with lymphoma and pediatric cancers, followed by head and neck cancers, and genitourinary cancers of which 82% and 59% of participants' respectively gave a Likert score of 1.
- Post-test survey: the average median comfort level increased to **3(IQR 1), (p<0.001)**.
- Overall, there was an increase in the comfort levels of the modules covered (**Fig.1.**)

## RESULTS cont.

**Table 1: Virtual online modules and their corresponding median values**

Virtual Module	Pre-test Likert median(IQR)	Post-test Likert median(IQR)	p-value (<0.05)
Radiation oncology overview	2 (2)	4 (1)	0.102
Breast	2 (1)	4 (1)	0.06
Head and Neck	1 (1)	3 (2)	0.06
Central Nervous System	1 (1)	3 (1)	0.06
Pediatrics	1 (0)	3 (1)	0.06
Gastrointestinal system	1 (1)	4 (1)	<b>0.05*</b>
Genitourinary system	1 (1)	4 (1)	<b>0.05*</b>
Gynecologic	2 (1)	3 (1)	0.06
Lung	2 (1)	3 (1)	<b>0.05*</b>
Lymphoma/Hemato-Oncology	1 (0)	3 (2)	0.06
Radiation oncology emergencies	1 (1)	4 (1)	<b>0.04*</b>
Palliative radiation oncology	2 (2)	5 (1)	0.06

**Fig .1: Proportional differences in the pre-test and post-test virtual learning surveys**



- There was a significant increase in comfort level of the introductory gastrointestinal, genitourinary, lung, and radiation oncology emergencies lectures (**Table 1**)
- Thematic responses to the survey were positive and participants indicated that the training improved their orientation to radiation oncology.

## SUMMARY / CONCLUSION

Virtual radiation oncology introductory online modules increase first-year residents' comfort on some of the core subsites for radiation oncology with a trend in most disease sites.

Currently, the principles and basics of radiation oncology care have not been implemented consistently in first-year residency orientation. Early PGY2 residency education initiatives such as IROC and Radiation Oncology Virtual Education Rotation (ROVER) are important to instill knowledge and confidence in radiation oncology core concepts.