Advances in Radiation Oncology

Resident Considerations for Virtual Interviews in Radiation Oncology: Perspectives from the Sunshine State
--Manuscript Draft--

Corresponding Author:	James Edward Bates, M.D. Emory University Atlanta, Georgia UNITED STATES
First Author:	James Edward Bates, M.D.
Order of Authors:	James Edward Bates, M.D.
	Alexandra N De Leo, MD
	Timothy D Malouff, MD
	Akash D Parekh, MD
	Nirav V Patel, MD
	Nicholas B Figura, MD
	David Asher, MD
	Homan Mohammadi, MD
	Mark R Waddle, MD
Abstract:	

Resident Considerations for Virtual Interviews in Radiation Oncology: Perspectives from the Sunshine State

James E Bates MD[1], Alexandra N De Leo MD[1], Timothy D Malouff MD[2], Akash D Parekh MD[1], Nirav V Patel MD[3], Nicholas B Figura MD[4], David Asher MD[3], Homan Mohammadi MD[4], Mark R Waddle MD[4]

*HM and MRW contributed equally as co-senior authors

[1]Department of Radiation Oncology, University of Florida, Gainesville, FL

[2]Department of Radiation Oncology, Mayo Clinic, Jacksonville, FL

[3]Department of Radiation Oncology, Sylvester Cancer Center, University of Miami Miller School of Medicine, Miami, FL

[4]Department of Radiation Oncology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL

Corresponding Author:

James Bates, MD

Department of Radiation Oncology

550 Peachtree Street NE

Atlanta, GA 30308

James.edward.bates@emory.edu

Resident Considerations for Virtual Interviews in Radiation Oncology: Perspectives from the XXXX

Introduction

Residency candidate selection in radiation oncology has traditionally consisted of formal in-person interviews, which occur in groups, each over 1-2 days. This format was largely adopted due to the efficiency it provided programs in interviewing the most applicants in a given day and reducing faculty time away from clinical responsibilities. However, because of the ongoing threat of SARS-CoV-2, or COVID-19, and the associated social distancing measures, the Association of American Medical Colleges, the Accreditation Council for Graduate Medical Education, and the National Resident Matching Program have recommended virtual interviews for the 2020-2021 residency application cycle (1-3). This recommendation will result in a marked shift from tradition and requires significant alterations to the typical recruitment process for residents. We aim to discuss changes in applicant habits, logistical hurdles for programs, and how to ensure applicant exposure to current residents from the viewpoint of current residents.

Impact of Applicant Habits

Radiation oncology residency programs faced significant changes in the last several years with a marked decrease in the number of U.S. seniors applying to the field and an increase in the number of unfilled positions in the Match (4). These changes are multifactorial and beyond the scope of this brief report. It is clear, however, that incorporating virtual interviews to the Match

will impact applicant habits, likely in a meaningful way. We therefore urge programs to consider the following issues as they develop their virtual interview platforms.

In the 2020 Match, 128 U.S. senior applicants ranked radiation oncology residency programs 1,735 times for an average of 13.6 ranks per U.S. senior applicant (5). Considering that an applicant is exceedingly unlikely to rank a program for which they did not interview, we estimate an average 13.6 interviews per U.S. Senior applicant, which is an increase from 10.9 interviews in 2015 (6). We anticipate that the average number of interviews will significantly increase in the 2021 Match cycle for several reasons. First, a major limiting factor to the number of interviews that an applicant could pursue was travel time; something that will no longer be a significant concern given the virtual nature of the interviews. Second, the cost burden of interviewing for various residency programs will be significantly reduced. While data specific to radiation oncology is sparse; recent emergency medicine residency applicants attended an average of 1.6 away rotations and 13.7 interviews, spending over $8,000 on the process (7). Those costs are undoubtedly higher in radiation oncology given the need to apply for internships as well. This is a significant financial burden given the average indebtedness at graduation from medical school is approximately $200,000 (8). Virtual interviews will unquestionably reduce these costs, allowing for an increase in the number of interviews attended. Third, given the recent increase in unmatched positions in the field, program directors may consider extending more interviews to avoid unmatched residency spots. Considered alongside the recent concerning trends in radiation oncology residency applications

and matching, we strongly recommend that program directors consider these factors as they embark on reviewing which and how many applicants to interview this autumn.

Thought leaders in other fields of medicine have suggested making additional changes to the structure of the Match, including limiting the number of interviews that applicants can accept (9). We are concerned regarding the implementation of this limitation, especially given the many unknowns of the residency application process this year. With the shift to virtual interviews and uncertainties associated with the new process, it is reasonable for applicants to want to expand their horizons and gain exposure to as many programs as possible. Limiting their ability to do so may prohibit applicants and programs from finding their correct "match."

Changes to the Interview Day

The introduction of virtual interviews will present new challenges to both applicants and programs. As current residents, our collective experience taught us that the most important considerations during interview day include the ability to 1) acquire information regarding the program, 2) become acquainted with the professional culture of the faculty and residents, and 3) determine the suitability of the city in which the residency resides. These considerations are typically addressed during physical visits and will need to be replaced within the virtual process.

Perhaps the simplest concern to address is how to properly relay information regarding the program. Often, information regarding rotation structure, research opportunities, and educational programs are available on the program website. We urge coordinators to ensure their websites are current, clear, concise, and highlight the unique features of their program.

We further emphasize the importance of social media platforms, especially Twitter, in engaging potential applicants. Several residency programs have launched virtual "meet and greets" well in advance of ERAS application deadlines and we specifically commend their efforts to improve the information available to prospective resident physicians (10). Away rotations are the primary method by which applicants familiarize themselves with the programs they are most interested in; yet, these rotations are highly unlikely to occur this summer and fall. We predict that, due to fewer away rotations resulting in less exposure to programs, and/or to apprehension in selecting a program in an unknown city, applicants will favor their home programs or cities they are more familiar with from prior experiences. Therefore, we encourage program directors to implement virtual away rotations; we are overwhelmingly encouraged by the nearly twenty programs offering flexible virtual away rotations (11). The structure outlined by Kahn et al offers prospective applicants a formalized program that appears to be well-liked by students going through the experience (12). Program directors should also coordinate with their institution's graduate medical education office and local tourism boards to offer applicants engaging and informative videos or virtual tours of their departments, campuses, and hometowns.

Becoming acquainted with faculty and current residents will also be a challenge. Owing to the structural changes and logistics behind virtual interviews, it may be convenient for programs to develop a condensed interview process consisting of interviews with the program director and a limited number of faculty. However, we strongly encourage programs to avoid this condensation of the interview day and to involve as many faculty as feasible to represent the

entire breadth of clinical experiences in the residency program and to ensure that applicants interact with a broad cross-section of faculty. Likewise, an enhanced number of interviews both with faculty and senior residents will allow for improved evaluation of potential applicants, and to better determine which applicants may best fit into each residency program.

Incorporating Current Residents into the Interview Process

While we are not aware of survey evidence to support this, it is our collective view that one of the most valuable resources on interview day is unfettered time with current residents. We believe that program directors also view this interaction as important given the expenses dedicated to interview dinners exclusively for residents and applicants. Such an essential interaction between applicants and residents will be one of the most challenging activities to replicate in the transition to virtual interviews.

We propose several options to incorporate current residents into the interview process. Senior residents could take an active role with a dedicated interview including a subset of residents. Our anecdotal experiences suggest that a dedicated resident interview is customary among some programs, but not most. Such a format may be too formal for applicants to feel they can freely ask questions. Hosting a virtual "happy hour" before or after the interview day would provide an informal setting to offset the formality of the interview sessions. While this event may resemble the current pre-interview dinner, we acknowledge that its virtual nature could introduce awkwardness and inhibit the natural flow of conversation, especially break-out conversations since a virtual format demands a single speaker at a given time. One last strategy

to consider is the creation of program-specific virtual "meet the residents" sessions during the 2020 ASTRO Annual Meeting. Ideally, registration for these sessions would be free to all medical students (even those not attending ASTRO) and would provide short bursts of interaction between one medical student and a small group of residents from that given program. Medical students would register in advance for their programs of interest, provided those programs were enrolled in the session. While no single strategy is perfect, ensuring interactions with residents will ensure that applicants receive vital information regarding the professional culture of each department rather than relying on other avenues of information to make decisions regarding their rank lists. Our hope is that these ideas will spark further discussions to identify ever more optimal methodologies for applicant-resident interactions to interact.

Conclusions

The shift to virtual interviews will impose significant changes to applicant behavior and require substantial alterations to the interview process. We present a resident-centric view of key issues that may be important to applicants and programs as they navigate these changes. In **Table 1**, we summarize several suggestions. This manuscript builds on a recent contribution of recently matched residents who discussed many concerns both in this interview season and those going forward (13). We concur with the suggestions of Sherry et al on incorporating a "virtual hangout" to simulate the waiting room experience and a common release date of interview applications. We further concur with regional coordination of interview dates to minimize travel when in-person interviews do resume. We expand significant upon this

manuscript in discussing many additional methods to promote applicant, resident, and faculty engagement in the interview process. Considering the reduced cost of a virtual interview season, applicants are likely to interview with more programs and programs are likely to interview more applicants. Program efforts should focus on providing applicants with sufficient information to make this major life decision. We also encourage programs to develop novel ways for applicants to interact with residents throughout the interview process. We have the pleasure of working in a field that is constantly evolving. We have no doubts that any challenges introduced by the shift to virtual interviews will be overcome, and we look forward to engaging in discussions to optimize our collective success.

References

1. Conducting Interviews During the Coronavirus Pandemic. 2020. https://www.aamc.org/what-we-do/mission-areas/medical-education/conducting-interviews-during-coronavirus-pandemic. May 19, 2020.

2. Coalition for Physician Accountability Publishes Recommendations on Movement Across Institutions for 2020-2021. 2020. https://acgme.org/Newsroom/Newsroom-Details/ArticleID/10252/Coalition-for-Physician-Accountability-Publishes-Recommendations-for-2020-2021. May 19, 2020.

3. The Match. 2020. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2020/04/NRMP-Board-FAQ-01April2020-final_for-posting.pdf. April 1, 2020.

4. Bates JE, Amdur RJ, Lee WR. Unfilled Positions in the 2020 Radiation Oncology Residency Match: No Longer an Isolated Event. *Practical radiation oncology* 2020.

5. Results and Data 2020 Main Residency Match. 2020. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2020/05/MM_Results_and-Data_2020.pdf. May 19, 2020.

6. Results and Data 2015 Main Residency Match. 2015. https://mk0nrmp3oyqui6wqfm.kinstacdn.com/wp-content/uploads/2015/05/Main-Match-Results-and-Data-2015_final.pdf. May 19, 2020.

7. Blackshaw AM, Watson SC, Bush JS. The Cost and Burden of the Residency Match in Emergency Medicine. *The western journal of emergency medicine* 2017;18:169-173.

8. Royce TJ, Davenport KT, Dahle JM. A Burnout Reduction and Wellness Strategy: Personal Financial Health for the Medical Trainee and Early Career Radiation Oncologist. *Practical radiation oncology* 2019;9:231-238.

9. Hammoud MM, Standiford T, Carmody JB. Potential Implications of COVID-19 for the 2020-2021 Residency Application Cycle. *JAMA* 2020. https://www.ncbi.nlm.nih.gov/pubmed/32492097.

10. Virtual Radiation Oncology for Medical Students. 2020. https://www.radoncvirtual.com/meetandgreet. August 28, 2020.

11. Radiation Oncology Programs with Virtual Radiation Oncology Electives. 2020. https://www.radoncvirtual.com/meetandgreet. August 28, 2020.

12. Kahn JM, Fields EM, Pollom E*, et al.* Increasing Medical Student Engagement through Virtual Rotations in Radiation Oncology. *Advances in Radiation Oncology* 2020.

13. Sherry AD, Rooney MK, Bernard V*, et al.* Residency Interviews in Radiation Oncology After COVID-19: Perspectives From Recently Matched Applicants. *Int J Radiat Oncol Biol Phys* 2020;108:452-454. http://www.ncbi.nlm.nih.gov/pubmed/32890530.

Table

Table 1. Recommendations to maximize the success of virtual interviews for involved stakeholders			
	Residency Applicants	**Current Residents**	**Residency Programs**
Pre-Interview	Identify programs of interest through AAMC website

Assess availability of virtual rotations

Visit residency program websites and review official materials

Participate in ASTRO/ACRO/ACR events for medical students

Reach out to current residents in home program or programs of interest | Work with residency program leadership to update public resources

Engage in social media

Allow medical student access to contact information

Participate in virtual mentorship

Participate in ASTRO/ACRO/ACR events for medical students | Update and improve residency website

Provide contact information of program director and residents for interested students

Develop virtual curriculum for medical student rotations

Compile resources regarding the city and make available online

Participate in ASTRO/ACRO/ACR events for medical students

Rigorously test virtual interview platform |

Interview Day	Do not judge programs based on differences in virtual interview technology Remain professional, have an appropriate space and reserved time for interviews, and treat candidates with the same professionalism as an in-person interview Ask directed questions about work environment, relationship with staff, average workday, and life outside of work in the city of the residency program	Arrange for dedicated time with applicants during interview Encourage and engage in informal discussions rather than formal interview questions Consider group interview with several residents so that applicants can see group dynamics Offer chance to see common work areas (e.g., resident room)	Convey information as efficiently and accurately as possible in electronic form Encourage all faculty that typically participate in interviews to be included in virtual interviews Allow a forum for residents and applicants to have informal discussions Have IT staff available for immediate assistance Eliminate excessive presentations on interview day
Post-Interview	Continue to reach out to programs with specific questions that may arise	Maintain open dialogue with applicants about changes in program	Allow for open communication with applicants.
Abbreviations: AAMC, ; ASTRO, American Society of Radiation Oncology; ACRO, American College of Radiation Oncology; ACR, American College of Radiologists			