Assessment of Lymphoma and Other Hematologic Malignancies Training Needs Amongst Radiation Oncology Residents

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Objectives

• Review training and exposure in hematologic malignancies for Radiation Oncology (RO) residents

• Review resident training comfort level in treating hematologic malignancies

• Future goals and options for Rad Onc resident training in hematologic malignancies
  • Mobilize the Heme Rad Onc Community

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Use of radiation therapy in the management of hematologic malignancies is heterogeneous.

Resident comfort is unknown:

- 2013-2014, **30.3%** of chief residents reported **no or inadequate** level of exposure for lymphoma malignancies.

- 2016-2019, ARRO Chief survey revealed **24% received adequate lymphoma training** but more experience would be desirable.

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Materials/Methods

• RO residents (PGY2-5) in the ARRO email database (n=572) sent anonymous survey

• Questions were binary, Likert-type scale, and multiple choice
Results/Outcomes

- 134/572 residents completed the survey (23% response rate)

Majority responses from PGY4-5: 65%

- 34% PGY-5
- 31% PGY-4
- 28% PGY-3
- 8% PGY-2

Majority from programs >5 residents: 92%

- 34% 5-8
- 32% 9-12
- 15% 13-16
- 12% 17 or more
- 8% 1-4

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Rotation Length and Focus

- 84% had faculty who specialize in hematologic malignancies
- 71% have a hematologic rotation, most common > 8 weeks long
  - Only 40% had a dedicated rotation (>50% heme patients)

>50% Hematologic Patients Seen

- 40% Yes
- 55% No
- 5% I don’t know
Patient Population

- Resident reported number of cases

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<tr>
<th></th>
<th>0</th>
<th>1-3</th>
<th>4-6</th>
<th>7-10</th>
<th>&gt;10</th>
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<td><strong>Hodgkin lymphoma</strong></td>
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<td><strong>Non-Hodgkin lymphoma</strong></td>
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<td><strong>Multiple Myeloma</strong></td>
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<td><strong>Leukemia (adult)</strong></td>
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<td><strong>Cutaneous lymphoma</strong></td>
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</tbody>
</table>

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Advocating in Tumor Board: How Comfortable Would Residents Be?

- 32% Moderately
- 32% Somewhat
- 18% Quite
- 14% Not at all
- 5% Extremely

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Clinical Decisions

• Making clinical decisions once referred

- 31% Somewhat
- 36% Moderately
- 21% Quite
- 7% Extremely
- 5% Not at all

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Comfort with Contouring and PET/CT

Contouring ISRT

- 16% Extremely
- 34% Quite
- 27% Moderately
- 18% Somewhat
- 5% Not at all

Incorporating PET/CT for treatment

- 26% Extremely
- 29% Moderately
- 25% Quite
- 20% Somewhat
- 1% Not at all

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### Specialized Treatment Techniques

- Resident reported cases in specialized treatment techniques

<table>
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<tr>
<th>Treatment Description</th>
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<td>Breath hold treatment for mediastinal lymphoma</td>
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<td>Adult craniospinal irradiation (CSI)</td>
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<td>62</td>
<td>11</td>
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<td>Total skin irradiation (TSI) / Total skin electron beam therapy (TSEB)</td>
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<td>24</td>
<td>26</td>
<td>9</td>
<td>9</td>
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<td>Row %</td>
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<tr>
<td>Adult total body irradiation (TBI)</td>
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<td>Proton therapy</td>
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Resources

- ILROG guidelines/publications
- Board review courses (including written and audio files)
- Textbooks
- Residency formal didactics
- Informal teaching by attendings

Percent
Overall Comfort to Treat Heme Malignancies

- 7% Extremely
- 8% Not at all
- 28% Somewhat
- 41% Moderately
- 16% Quite

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Formal Away Elective Interest and Why?

- 6% Extremely
- 18% Quite
- 25% Moderately
- 32% Somewhat
- 19% Not at all

- 25% I have a special interest in this disease site
- 11% Other
- 65% I do not feel prepared to treat heme patients

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Away elective rotation for radiation oncology residents

Gain more clinical and technical experience with managing patients with hematologic malignancies

Visit www.ILROG.com/resident-elective for more information
Conclusions

• There is a need for hematologic malignancy training
  • In fundamental techniques:
    • Breath hold and Contouring training deficiencies

• <25% of trainees feel “quite” prepared to treat heme patients

• One way to address these deficiencies is to create a dedicated heme electives
  • Select programs or hands on online educational activities

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Acknowledgements

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- ARRO Executive Committee

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- Bradford Hoppe MD, MPH
- Yolanda Tseng MD
- Rahul Parikh MD

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• ACGME:
  • Requirement for rotation in specific disease site will likely be moving forward
  • Consideration of specialty specific minimums (still under review)

• Could partner with smaller programs to offer this elective
Travel for an Away Elective

- Would you travel?
  - 46% Yes
  - 55% No

- How far?
  - 12% <50 miles
  - 13% 50-250 miles
  - 75% Does not matter as long as there is housing
## Future of Education in Hematologic Malignancies

<table>
<thead>
<tr>
<th>Item</th>
<th>Overall Rank</th>
<th>Rank Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands-on modules to teach contouring for lymphoma (e.g. involved site RT)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Oral examination to test your ability to handle heme cases</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Lecture(s) on hematologic malignancies (e.g. Hodgkin disease, leukemia, multiple myeloma)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Instruction on specialized simulation and treatment techniques (e.g. mediastinal breath hold cases)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Instruction by physics on specialized treatment techniques (TBI, TSEB)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Observation of multidisciplinary tumor boards</td>
<td>6</td>
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<tr>
<td>Guided reading list</td>
<td>7</td>
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