ABR Update: Radiation Oncology

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AAPM Annual Meeting
Houston, July 30 2008

Why discuss Radiation Oncology Exams?

- Medical physicists should be familiar with radiation oncology exam process
- Many medical physicists contribute to training of radiation oncologists
- Medical physicists contribute to RO exams
Written Exam

- Clinical, biology, and physics exams
- Residents can take physics and biology after 3rd year of training (PGY 1 + 36 months)

Oral Exam

- Administered in Louisville
- Residents take following completion of training and written exams
- One examiner in each of 8 major clinical categories
- 30 minutes/examiner
Written Exam

- Presently 215 Type A questions (multiple choice, one correct answer)
- Changing in 2009 to 100 questions

Content
- Written by volunteers, assembled by committee
- Changing focus away from basics, toward newer techniques
- Consistent with ASTRO Syllabus

ASTRO Syllabus
**Written Exam Content**

<table>
<thead>
<tr>
<th>Section</th>
<th>Topics</th>
<th>2008 content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Atomic structure, decay, interactions</td>
<td>29 %</td>
</tr>
<tr>
<td>2</td>
<td>Dose measurements</td>
<td>28 %</td>
</tr>
<tr>
<td>3</td>
<td>Advanced dosimetry</td>
<td>22 %</td>
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<tr>
<td>4</td>
<td>Brachytherapy</td>
<td>10 %</td>
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<tr>
<td>5</td>
<td>Protons, radiation protection, special topics</td>
<td>11 %</td>
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**Oral Exam**

- RO Trustees asking for volunteers to write oral exam questions, assemble, and manage the exam
- Introducing methods to evaluate:
  - Use of imaging
  - Target definition
  - Exam to include
  - Improved images
  - Sophisticated treatment plans
Problem Areas

- Equivalent dose, effective dose
- Relative neutron dose equivalent
- Electron beam penumbra
- TG-43 dosimetry parameters

IMRT:
- Effect on leakage radiation
- Effect on shielding requirements