ABR Update:

Radiation Oncology

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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

PEARSON VUE AUTHORIZED TEST CENTER

- 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

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Written Exam

- Until 2008: 215 Type A questions
  - multiple choice, one correct answer
  - Changed 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

Int. J. Radiation Oncology Biol. Phys., Vol. 68, No. 5, pp. 1276–1288, 2007

0360-3016/07/$–see front matter

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REPORT

ASTRO'S 2007 CORE PHYSICS CURRICULUM FOR RADIATION ONCOLOGY RESIDENTS

AD HOC COMMITTEE ON TEACHING PHYSICS TO RESIDENTS: ERIC E. KLEIN, PH.D.,* BRUCE J. GERBI, PH.D.,† ROBERT A. PRICE, JR., PH.D.,‡ JAMES M. BALTER, PH.D.,§ BHUDATT PALIWAL, PH.D.,‖ LESLEY HUGHES, M.D.,¶ AND EUGENE HUANG, M.D.#

Written Exam Content

Section	Topics	2008 content
1	Atomic structure, decay, interactions	29 %
2	Dose measurements	28 %
3	Advanced dosimetry	22 %
4	Brachytherapy	10 %
5	Protons, radiation protection, special topics	11 %

Written Exam Content

Section	Topics	2008 content	2010 content
1	Atomic structure, decay, interactions	29 %	18 %
2	Dose measurements	28 %	23 %
3	Advanced dosimetry	22 %	34 %
4	Brachytherapy	10 %	15 %
5	Protons, radiation protection, special topics	11 %	10 %

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

The American Board of Radiology