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Preparing for the ABR Diagnostic Medical Physics Board Exams - Oral Exam

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Outline

- What is oral exam, why is it special?
- What are examined in oral exams?
- How should I prepare oral exam?
- How can I do well during the exam?
- Any practical tips?

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What is oral exam?

- The final step to be a board certified medical physicist.
- June 9-12, 2013; Louisville, KY



- Hotels are all close: pros and cons of booking a hotel right at exam site

<http://www.theabr.org/>

How is oral exam performed?

- The oral examination is designed to test your knowledge and fitness to practice applied medical physics in the specified area(s).
- 5 examiners, 30 minutes each
- 5 questions in 5 categories
- Have to pass all 5 categories to get certificate
- If one category failed, you are considered 'conditioned'

<http://www.theabr.org/>

Is oral exam difficult?

Exam Results for Physicists


■ Medical Physics, Part 1 - General			■ Medical Physics, Part 1 - Clinical		
Year	Percent Passed	Number Taking	Year	Percent Passed	Number Taking
2006	77	371	2006	82	390
2007	86	397	2007	79	428
2008	78	383	2008	86	418
2009	77	469	2009	85	489
2010	77	506	2010	85	524

■ Medical Physics, Part 2 - Diagnostic			■ Medical Physics Oral - All Exam Takers		
Year	Percent Passed	Number Taking	Year	Percent Passed	Number Taking
2006	60	30	2006	53	220
2007	70	37	2007	47	229
2008	71	35	2008	57	289
2009	70	40	2009	55	287
2010	69	51	2010	53	319

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What are examined in oral exam?

- Radiation Protection and Patient Safety
- Patient-Related Measurements
- Image Acquisition, Processing and Display
- Calibration, Quality Control and Quality Assurance
- Equipment


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What are examined in oral exam?

- All imaging modalities in diagnostic medical physics
 - General X-ray: CR, DR
 - Fluoroscopy
 - Mammogram
 - CT
 - MRI
 - US
 - Informatics
- No nuclear medicine questions
- Emphasize on clinical experience


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What are examined?

- Basic imaging principles
 - How are images generated?
 - Familiar with terminologies, basic anatomies
- Equipment components and functions
 - Familiar with sketched figures
- Quality Control
 - What tests need to be conducted
 - With what phantoms and equipment
 - What are the limitations of each measurement
- ACR accreditation


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What are examined?

- Image quality assessment
 - Spatial resolution, low contrast detectability, geometry accuracy,
 - Familiar with typical values
- Image artifacts
 - Appearance, cause, correction
- Safety: Patient and operator
- Shielding and siting
 - ICRP 147; MRI siting




Do I need to read books?

- Books
 - The Essential Physics of Medical Imaging, Jerrold Bushberg, J. Anthony Seibert, Edwin Leidholdt, John Boone
 - Review of Radiological Physics, Walter Huda and Richard M. Slone
 - Medical Imaging Physics, William R. Hendee and E. Russell Ritenour
 - Other books in each modality
- Reports
 - NCRP147
 - ACR accreditation: general requirement and phantom studies
 - AAPM reports




How should I prepare oral exam?

- Start early
- Talk to people who recently took the exams




 - How they prepared
 - What they found to be useful
- Fully utilize your resources
 - Physicist, technologist and radiologist at your hospital
 - Your classmates, your friends, your colleagues ...
 - Yahoo Med Phys group
- Prepare a list of 'things you need to know' for each imaging modality



Group Study

- Benefit of group study
 - Motivate and support each other
 - Learn faster
 - Fill in knowledge gaps
- Conduct group study effectively



 - Group members on the same page
 - Each in charge of a specific area, e.g. one modality
 - Meet regularly
 - Question/challenge each other (in a friendly way)
- Distance is not a problem

Mock oral exam

- Get senior medical physicists to help
- Benefit of mock oral exam
 - Get familiar with oral exam format
 - Organize thoughts and answers during exam
 - Alleviate stress in real exam
 - Identify areas to focus and improve

How can I do well during the exam?

- Answer questions correctly and effectively
 - Give short and precise answers
 - Be honest, don't make up an answer
 - Talk about related topics if you don't know the answer
 - No need to sweat out on a single specific question
 - No need to guess which category a question belongs to

How can I do well during the exam?

- Interact with examiners
 - Experienced medical physicists
 - Different personal style of examiners
 - The purpose is to test your knowledge base and clinical experience, not to fail you. (They are helping you!)
 - Don't argue with examiners
 - Don't feel bad if you were stopped by the examiner, it could be a good thing
 - Examiners won't tell your performance
 - Final score is averaged among examiners

