Initial Certification

G. Donald Frey, Ph.D.
Associate Executive Director, ABR
# Competency in Medical Physics

<table>
<thead>
<tr>
<th>Professional Standing</th>
<th>Lifelong Learning</th>
<th>Cognitive Expertise</th>
<th>Practice Quality Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam Part 1 General MP</td>
<td>Exam Part 2 Discipline Specific MP</td>
<td>Exam Part 3 Discipline Clinical Competence</td>
<td></td>
</tr>
<tr>
<td>Physics Education</td>
<td>Medical Physics Education</td>
<td>Clinical Education</td>
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</tbody>
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- **Professional Standing**
- **Lifelong Learning**
- **Cognitive Expertise**
- **Practice Quality Improvement**

**Exam Part 1 General MP**

**Exam Part 2 Discipline Specific MP**

**Exam Part 3 Discipline Clinical Competence**

- **Physics Education**
- **Medical Physics Education**
- **Clinical Education**
Exam Part 1
General MP

Exam Part 2
Discipline Specific MP

Exam Part 3
Discipline Clinical Competence

Physics Education

Medical Physics Education

Clinical Education
Going Back to 2002

Exam Part 1
General MP

Exam Part 2
Discipline Specific MP

Exam Part 3
Discipline Clinical Competence

Physics Education

Medical Physics Education

Clinical Education

Few CAMPEP programs
Many candidates from non-MP programs

Largely non-standard OJT
Issues for Certification

• Largely non-standardized didactic education
• Largely non-standardized clinical education
• Many candidates had gaps either in their cognitive or clinical expertise
Steps to Improve the Process

In 2002 the ABR announced that beginning in 2012 a CAMPEP education would be required to sit for the ABR board.

Discussion within the MP community developed the concept of the importance of residencies.

In 2007 the AAPM Board voted to recommend a residency as the appropriate pathway into MP.

Following the guidance of the community the board announced that beginning in 2014 a residency would be required.
<table>
<thead>
<tr>
<th>Application Date</th>
<th>Requirement for NEW Applications</th>
</tr>
</thead>
</table>
| Prior to 2012          | Part 1: Appropriate graduate education  
Part 2: 3 years clinical experience                                                                  |
| 2012 & 2013            | Part 1: Enrollment in CAMPEP degree, certificate or residency program  
Part 2: Completion of CAMPEP residency or 3 years of clinical experience                           |
| 2014 and Beyond        | Part 1: Enrollment in CAMPEP degree, certificate or residency program  
Part 2: Completion of CAMPEP residency                                                             |

Requirements at the time of application continue to stay in force for reasonable amounts of time.
NATURE OF THE EXAMS
Nature of Exams

Exams are “criterion referenced.”

Everyone who meets the “standard” passes.

In principle everyone could pass or fail.

This can be compared to “norm referenced” where the purpose of the test is to rank the participants.
Criterion Referenced

Minimum Acceptable Competence

Set by psychometric Analysis

Not Ranked

Increasing Competence
How Are Criteria Determined?

- Expert Analysis
- Practice Surveys
- Professional Guidelines
Passing Score

Set by psychometric analysis
Norm Referenced

May not be a passing score
Examples

• Pure Criterion Referenced
  • Board Certification
• Pure Norm Referenced
  • Scholastic Aptitude Test
• Mixed
  • Typical College Grades (A>B>C>D>F)
THE EXAMS THEMSELVES
## Exam Length and Content

<table>
<thead>
<tr>
<th>Part 1: General</th>
<th>53 Simple 27 Complex</th>
<th>4 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1: Clinical</td>
<td>75 Simple</td>
<td>1.5 hrs</td>
</tr>
<tr>
<td>Part 2</td>
<td>53 Simple 27 Complex</td>
<td>4 hrs</td>
</tr>
<tr>
<td>Part 3 (Oral)</td>
<td>5 Categories X 5 Examiners = 25</td>
<td>5 x 25 min exam periods</td>
</tr>
</tbody>
</table>
Part 1 - Current Requirement

For New Applications Received after 2012

- Applicants for Part 1 and the Clinical Exam must be enrolled in one of the following CAMPEP Accredited Programs:
  - Graduate Education Program
  - Certificate Program
  - Residency

The candidate must be in good standing and the enrollment must be attested to by the program director
List of Commonly Used Constants

Beginning this last year a list of commonly used constants and physical values is provided for IC candidates. This reflects common practice for medical physicists. Informally called “Google List” List is available on the ABR website.
Part 1: General and Clinical

Must Pass Both Parts
If Candidate Fails Clinical
  Repeat Clinical
If Candidate Fails General
  Repeat Clinical & General
Part 2 - Current Requirement

For New Applications Received for 2014

• Applicants for Part 2 must have completed a CAMPEP approved residency by August 31 of the year of the exam.

  The candidate must be in good standing and the enrollment must be attested to by the program director

• If the applicant has completed their residency more than 1 year previously they must be employed as a medical physicist.
Beginning in 2013 the ABR will not ask candidates who have passed Part 1 for an automatic update.

An application for Part 2 will be available on the ABR website

i.e. You must apply for Part 2

Applications are accepted from December 1 until January 31
Beginning with the applications received in 2013 the deadline for completing a candidate’s clinical experience or residency will be August 31.
Part 3 (Oral) - Current Requirement

• Applicants for Part 3 must have passed Part 2

Long standing requirement
## New Oral Categories

<table>
<thead>
<tr>
<th>Category 1</th>
<th>Category 2</th>
<th>Category 3</th>
<th>Category 4</th>
<th>Category 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DMP</strong></td>
<td><strong>NMP</strong></td>
<td><strong>TMP</strong></td>
<td><strong>DMP</strong></td>
<td><strong>NMP</strong></td>
</tr>
<tr>
<td>Radiography, mammography, fluoroscopy and interventional radiology / cardiology / vascular</td>
<td>SPECT and hybrids, including gamma cameras</td>
<td>Radiation protection and patient safety</td>
<td><strong>Radiation shielding, protection, radiation dosimetry and patient safety</strong></td>
<td>Clinical procedures</td>
</tr>
<tr>
<td><strong>Computed tomography</strong></td>
<td>Radiation protection</td>
<td><strong>Patient-related measurements</strong></td>
<td>Informatics, PACS, image display, image fundamentals</td>
<td><strong>Radiation measurements</strong></td>
</tr>
<tr>
<td><strong>Non-ionizing techniques – MRI and ultrasound</strong></td>
<td>PET and hybrids</td>
<td>Image acquisition processing and display</td>
<td><strong>Radiation measurements</strong></td>
<td>Calibration, quality control, and quality assurance</td>
</tr>
<tr>
<td><strong>Clinical procedures</strong></td>
<td><strong>Equipment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>
Location of Orals

- Orals remain in Louisville
- No change in content
- Content will be organized differently
BOARD ELIGIBLE POLICY
Time Limits and Board Eligibility

- Replace “opportunities” with time limits
- Require additional education or training if candidate “times out”
- Make “Board Eligible” an official status
Part 1 and Clinical

• Approved to take Part 1 & Clinical after January 1, 2011
  • Must pass Part 1 & Clinical within 5 years of approval

• Approved to take Part 1 & Clinical prior to January 1, 2011
  • Must pass Part 1 & Clinical by December 31, 2016

• If you do not pass by the required date you must complete an additional year of education at an institution that has a CAMPEP accredited educational program before you can be approved to retake part 1
Part 1 to Part 2 Approval

The ABR does not have a time limit between passing Part 1 and being approved for Part 2.
“Board Eligible”

When one is approved for Part 2 or completes a CAMPEP residency one becomes “Board Eligible”

This is an official ABR and ABMS status and the candidate may describe themselves as “Board Eligible”

The ABR will report the candidate as “Board Eligible”
Board Eligible

• Approved after January 1, 2011
  • Must become certified within 6 years of approval

• Approved prior to January 1, 2011
  • Must become certified by December 31, 2016

• If you do not pass by the required date you must complete an additional year of training at an institution that has a CAMPEP accredited residency program before you can be approved to be board eligible

• The ABR will show your status as “Not Certified and Not Eligible for Certification”
Part 1 Approval
5 years
Pass
No
Yes
No time limit
Part 2 Approval
6 years
Pass
1 Year CAMPEP Education
Certified
1 Year CAMPEP Clinical Training
Yes
No
ADDITIONAL CERTIFICATES
Additional Certificates

You may apply for additional certificates after 1 year of clinical training under the supervision of an ABR physicist.

You are then “Board Eligible” in additional discipline:

- Part 2
- Oral

You must become certified in the additional field within 6 years of approval or a year of clinical training at an institution that has a CAMPEP residency is required.
Currently Certified In

Applying for Certification In

- TMP
- DMP
- NMP

TMP to DMP
DMP to NMP

NMP
DMP
TMP
STATISTICS
2013
- Resident: 27%
- Not Resident: 73%

2014
- Resident: 39%
- Not Resident: 61%
Number of Oral Exam Takers
Questions?