The ABR MOC Part IV: Practice Quality Improvement (PQI)

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The ABR MOC Program

ABR Headquarters Building
Tucson, Arizona

URL: http://theabrn.org
On home page one finds: MOC Radiologic Physics
Welcome to the American Board of Radiology web site

The mission of The American Board of Radiology is to serve patients, the public, and the medical profession by certifying that its diplomates have acquired, demonstrated, and maintained a requisite standard of knowledge, skill and understanding essential to the practice of Diagnostic Radiology, Radiation Oncology and Radiologic Physics.

ABR News and Updates

News

New! Subspecialty Certification in Hospice and Palliative Medicine is now offered through the ABR. Click here for details.

Updates

Diagnostic Radiology Exam of the Future: ABR announces anticipated changes in content, timing, and structure — comments invited.

ABR names Dr. Gary Becker to succeed Dr. Robert Hattery as executive director.

Initial Certification: Radiologic Physicists - ABR/GAMPRP
Summit meeting held August 17, 2007
Welcome back Dr. Stephen R. Thomas!
You last signed in on Mar 4 2008 8:14AM

MOC Enrollment: You are currently enrolled in: MOC in Diagnostic Radiologic Physics and MOC in Medical Nuclear Physics.

Licenses: You do not have any state license on file with The ABR.

Payments: Your current balance due is $0.00.

MOC Status: Your MOC Cycle in Diagnostic Radiologic Physics & MOC in Medical Nuclear Physics will complete in 2015.

Part 1: Professional Standing
Part 2: Lifelong Learning & Self Assessment
Part 3: Cognitive Expertise
Part 4: Practice Quality Improvement

0 letters of attestation on file, 0 pending.

202.5 Category 1 Credits
15 SDEP Credits
3 SAMs

Exams to be available starting in 2010.

News

IMPORTANT! BE SURE TO SEE YOUR 2008 RADIOLOGIC PHYSICS ABR-MOC ANNUAL UPDATE.
Please follow this link, 2008 ABR Radiologic Physics MOC Annual Update, to view your 2008 ABR Radiologic Physics MOC Annual Update. This update contains important information regarding the ABR MOC program.

Having a problem with the website?
PDB: Web-based Process

- Available for ABR diplomates
- Web-based application – password protected
- Step by step process for MOC
- Easy to use with effective tools
- Maintain files
- Receive data (CME’s, SAMs)
- Review status
- Submit documents
American Board of Medical Specialties (ABMS)

**Established 1933:** Now composed of 24 member boards:
Past-President (2001) - James Youker, MD (ABR)

**Mission (in part):** To maintain and improve the quality of medical care by assisting the member boards in their efforts to develop and utilize professional and educational standards for the evaluation and certification of physician specialists.


March 2000: Agreed that existing or planned programs of recertification would evolve into programs of: Maintenance of Certification (MOC).

**Committee on Oversight and Monitoring of MOC (COMMOC)**
SR Thomas: Elected member
ABMS: Six Competencies (Specific to Radiologic Physics)

- **Medical Knowledge**: Understand and apply appropriate radiologic physics techniques to meet the needs of patients, health care providers, and the health care system. Engage in continuous learning.

- **Patient Care**:

- **Interpersonal & Communication Skills**:

- **Professionalism**:

- **Practice Based Learning & Improvement**:

- **Systems Based Practice**: Realize that radiologic physics is one part of a continuum of patient care. Work towards integration and continuous improvement.
ABMS: Four Components of MOC

Component 1: Professional Standing
- Physicians; Unrestricted license
- Physicists; Unrestricted license or practice involvement documentation (Letters of Attestation)

Component 2: Lifelong Learning and Self-Assessment
- The requirement to keep current in the field. Renewing & expanding knowledge, skills, competence, and performance for the purpose of improving the quality of patient care.

Component 3: Cognitive Expertise
- Examination process.

Component 4: Practice Performance Improvement
- Assessment regarding support of patient care.
RP PQI References

1.) Med Phys 34: 4158 – 4163; Nov 2007

The American Board of Radiology perspective on maintenance of certification: Part IV: Practice quality improvement in radiologic physics


The American Board of Radiology, 5441 East Williams Blvd., Tucson, Arizona 85711

2.) ABR website URLs:

- http://theabrar.org/RP_MOC_Reg.htm
- http://theabrar.org/RP_MOC_PQI.htm
The ABR’s MOC Initiatives:
Summit Meetings with Stakeholder Organizations

- 2005: Summit meeting on issues concerning Self Assessment Modules (SAMs)
- 2006: Summit meeting on Part IV: Practice Performance Improvement (PPI)
- 2007: MOC Part IV: Practice Quality Improvement (PQI)
- 2008 (in planning stages – with RP Trustees as the prime organizers): PQI – Patient Radiation Safety
AAPM TG 127: MOC Task Group

Chairs:
Michael V. Yester & Per H. Halvorsen

Charge:
- Act as a resource to the ABR Trustees and AAPM members concerning MOC
- Provide information/suggestions on activities that meet MOC requirements
- Ensure that educational activities are available to members
Part 4: Practice Quality Improvement (PQI)

Objective of MOC: Improve the quality of health care through diplomate initiated learning and quality improvement.

PQI projects provide evidence of critical evaluation of the individual’s performance in practice.

Expectation that the diplomate will participate continuously in PQI over the 10-year cycle.
Part 4: Practice Quality Improvement (PQI)

Five areas established for PQI projects:

- Safety for patients, employees, public
- Accuracy of analyses & calculations
- Report turnaround time & communication issues
- Practice guidelines & technical standards
- Surveys (including peer review of self-assessment reports)
Practice Quality Improvement

Enter your PQI Attestation

The ABR's Practice Quality Improvement - "PQi" - program addresses Part IV requirements. For Radiologic Physics, five categories of PQI projects have been defined: 1) safety for patients, employees, and the public, 2) accuracy of analyses and calculations, 3) report turnaround time and communication issues, 4) practice guidelines and technical standards, and 5) surveys (including peer review of self-assessment reports). Each radiologic physicist decides on a project in one of these categories, working as an individual, within a department, or associated with a national society.

During the first year (2007) diplomats must acquire knowledge concerning quality improvement. The overarching reason for PQI is to improve the quality of care delivered, reduce errors and improve safety. There are many opportunities to learn about how to do this.
Examples of program resources that you may find helpful in learning about quality improvement include:

- On-line or in-person course (including AAPM or other society, college, institutional, and commercial courses, e.g., Lean Management, Six Sigma)
- Self-Assessment Module (SAM) on quality improvement
- Society-sponsored CME offering
- Institutional course

Examples of reading resources:

- **JCAHO’s National Patient Safety Goals**
- **National Quality Forum’s 30 Safe Practices for Better Healthcare**
  [http://www.ahrq.gov/qual/nqfpract.htm](http://www.ahrq.gov/qual/nqfpract.htm)
- **National Council on Radiation Protection and Measurements**
  [http://www.ncrponline.org](http://www.ncrponline.org),
- **Institute of Medicine Report (IOM)**
  To Err Is Human: Building a Safer Health System
  [http://www.iom.edu/CMS/8089/5575.aspx](http://www.iom.edu/CMS/8089/5575.aspx)
  Crossing the Quality Chasm: A New Health System for the 21st Century
  [http://www.iom.edu/CMS/8089/5432.aspx](http://www.iom.edu/CMS/8089/5432.aspx)
- **Institute for Healthcare Improvement (IHI)**
  [http://www.ihi.org/IHI/Topics/Improvement/](http://www.ihi.org/IHI/Topics/Improvement/)
- **RSNA’s Continuous Quality Improvement Initiative**
- **Agency for Healthcare Research and Quality’s “Effective Healthcare”**
  [http://effectivehealthcare.ahrq.gov/aboutUs/index.cfm](http://effectivehealthcare.ahrq.gov/aboutUs/index.cfm)
- **Mayo Clinic, Department of Radiology, Quality Improvement Reading List**
# PQI Attestation for Year 1

<table>
<thead>
<tr>
<th>PQI Requirements</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chosen a project</td>
<td>✔️</td>
</tr>
<tr>
<td>Made baseline measurements</td>
<td>✔️</td>
</tr>
<tr>
<td>Analyzed the root cause</td>
<td>✔️</td>
</tr>
<tr>
<td>Developed an action plan</td>
<td>✔️</td>
</tr>
<tr>
<td>Instituted the action plan</td>
<td>✔️</td>
</tr>
<tr>
<td>Made measurements</td>
<td>✔️</td>
</tr>
<tr>
<td>Completed a PQI project</td>
<td>✔️</td>
</tr>
</tbody>
</table>

## Attestation Questions for Year 1

During the first 12 months of your enrollment in MOC (or calendar year 2007, whichever comes later), you are expected to learn about the concepts and tools of the quality improvement process. You may do this in a number of ways; they include selected courses at national meetings, on-line, or at local institutions; or qualified Self-Assessment Modules on the topic of quality improvement.

1. By what method(s) did you learn about quality improvement, error reduction, and/or patient safety?
   - [ ] Course attendance - in person or on-line
   - [ ] Self-directed reading
   - [ ] Completion of qualified Self-Assessment Module
   - [ ] Participation in my own institution’s quality program(s)
   - [ ] Other (please specify) [ ]

## Legend

- ✓ Completed
- ❌ Incomplete
- Year selected or current year (yellow)
- Years attestation is available (white)
- Years attestation is unavailable (grey)
Part 4: Practice Quality Improvement (PQI)

- First year: PQI concepts training
- Selection of one project to be carried out over the 10-year cycle.
- Projects may be developed by individuals, group practices, institutions, societies.
- ABR will review and qualify national programs developed by professional societies.
# Part 4: Practice Quality Improvement (PQI)

<table>
<thead>
<tr>
<th>Year</th>
<th>Yearly Requirements for PQI Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quality improvement education (first cycle)</td>
</tr>
</tbody>
</table>
| 2    | - Select project and metrics  
     | - Collect baseline data |
| 3    | - Analyze data  
     | - Create improvement plan |
| 4    | - Implement improvement plan  
     | - Might include data collection |
| 5    | - Collect data  
     | - Compare to initial baseline  
     | - Summarize, draw conclusions |
| 6    | - Modify improvement plan for previous project or select new project and metrics  
     | - Collect baseline data |
| 7    | - Analyze data  
     | - Create improvement plan (if new project) |
| 8    | - Implement improvement plan  
     | - Might include data collection |
| 9    | - Collect data  
     | - Compare to initial baseline  
     | - Summarize, draw conclusion |
| 10   | Cycle concludes |

At cycle end: Project(s) completed
RP PQI Examples on ABR Website: Diagnostic Radiologic Physics

- Safety: Monitoring of dose indices for lumbar spine radiography
- Safety: Women’s CT dose
- Report Turnaround Time: Determine report turnaround time and quality of consultation following medical physics equipment evaluation
Category: Safety for Patients, Employees and the Public

Practice Quality Improvement Project: Monitoring of Dose Indices for Lumbar Spine Radiographs

Background: With Computed Radiography (CR) it is only possible to have little imaging consequences of overexposure where there are no "waste films".

Objective: To establish a reasonably achievable effective dose using archived examinations over the last two years.

Improvement Plan
1. Contact other leading institutions to determine "Practice Standards"
2. Review the ACR Practice Guidelines for Reference Levels
3. Institute program to extract data for all Lumbar Spine Examinations

Remeasurement
1. Review performance on monthly basis for six months, then quarterly.
2. Meet with Supervisor and Radiologist to assess trends and outliers.
3. Oversee continuing monitoring

Evaluation:
The Diplomate will annually oversee the program to assure that Lumbar Spine Radiography produces quality images using as low as reasonably achievable radiation levels.

Metrics
1. Develop software to extract Dose Indices from DICOM Headers
2. Using archived examinations, establish the mean and standard deviation for these indices over the last two years
RP PQI Examples on ABR Website: Therapeutic Radiologic Physics

- Accuracy of Analyses/Calculations: HDR graphical optimization
- Safety: Standardizing physics chart checks
- Practice Guidelines and standards: Standardizing dose constancy testing
Metrics

1. Collect dose constancy data for 12 months.
2. Determine the overall standard deviation for all data along with the standard deviation for each physicist.

Improvement Plan

1. Compare the methods utilized by each physicist.
2. Establish optimum approach.
3. Review the work habits of any physicist whose methods significantly differ from the established optimum and discuss any changes that might increase accuracy and efficiency. Provide additional training as necessary.

Remeasurement

1. Each physicist will collect a second set of data after 6 months has passed.
2. The physicists will determine if there has been an improvement, and generate a report summarizing their findings.

Evaluation:

At annual intervals the diplomate will review the overall progress of the project to determine if the project is 1) having a positive effect by increasing accuracy of constancy testing and 2) the interventions with the technologists are effective.
Surveys : Peer review of self-assessment reports

RP PQI Examples on ABR Website: Medical Nuclear Physics

- Safety: Radiation badge monitoring
- Practice Guidelines and Standards: PET SUV – Accuracy and stability
- Surveys: Survey of satisfaction of physicians
Now, as this is a SAM session, there must be Questions.
1. For radiologic physicists in the ABR MOC program, the first year activity for Part IV: Practice Quality Improvement (PQI) involves ________________.

1. collecting baseline data
2. creating and implementing an improvement plan
3. reporting the selected project to the ABR
4. engaging in education and training on PQI
5. analyzing the PQI data acquired
1. For radiologic physicists in the ABR MOC program, the first year activity for Part IV: Practice Quality Improvement (PQI) involves ______________.

D. engaging in education and training on PQI

References:

- Med Phys 34: 4158 – 4163; Nov 2007

ABR website URLs:
- http://theabrar.org/RP_MOC_Req.htm
- http://theabrar.org/RP_MOC_PQI.htm
2. For radiologic physicists in the ABR MOC program, peer review of self-assessment reports would be included under which one of the following PQI project categories?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>25%</td>
<td>1. Safety for patients, employees, and the public</td>
</tr>
<tr>
<td>25%</td>
<td>2. Accuracy of analyses and calculations</td>
</tr>
<tr>
<td>5%</td>
<td>3. Report turnaround time and communication issues</td>
</tr>
<tr>
<td>28%</td>
<td>4. Practice guidelines and technical standards</td>
</tr>
<tr>
<td>18%</td>
<td>5. Surveys</td>
</tr>
</tbody>
</table>
2. For radiologic physicists in the ABR MOC program, peer review of self-assessment reports would be included under which one of the following PQI project categories?

E. Surveys

References:

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- ABR website URLs:
  - http://theabr.org/RP_MOC_Req.htm
  - http://theabr.org/RP_MOC_PQI.htm
Thank you for your attention!

Now it’s time for your Questions
Part 3: Cognitive Expertise

Expected to
- maintain the essentials of core knowledge fundamental to the practice of Radiologic Physics, and
- to remain up-to-date on evolving technologies, protocols, procedures and techniques involving applications of physics in medicine.

Fulfillment of these expectations will occur by evaluation of cognitive expertise utilizing a multiple-choice examination in a secure testing center.
“Philosophy” of the Cognitive Exam – ABR Point of View

- Configured as an instrument that promotes the theme of continuous learning, thus
- Designed as an integral part of the continuous learning process and not as an unpleasant hurdle to overcome
- Constructed so that it is relevant to practice
- Degree of difficulty to be set at a realistic level with the expectation that the pass rate will be relatively high
- Guidance will be provided to the diplomates to assist in preparation
Cognitive Expertise

- The examination format will be 100 un-weighted multiple-choice questions with content based on
  - 1) core knowledge (approximately 30%),
  - 2) current evolving technologies (approximately 70%).

- Necessary reference material will be embedded in the questions.

- Newly formatted cognitive exam will be available on a yearly basis.

- A diplomat who fails an exam will have the opportunity to retake the examination, offered in the next year.

- The exam should be taken during the eighth, ninth or tenth year.

- Multiple certificate holders must take an exam in each.