MOC
Maintenance of Certification
G. Donald Frey

**Relevant Information:**
ABR Trustee  
Editor Electronic Medical Physics World

**Conflicts:**  
None to Report
Objectives

- Understand the driving forces behind the MOC process.

- Be aware of the educational opportunities in the MOC process
Why do we have MOC?

- Society is demanding that someone “police” the medical professions
Institute of Medicine Report

TO ERR IS HUMAN
Building a Safer Health System

Linda T. Kohn, Janet M. Corrigan, and Molla S. Donaldson, Editors
Committee on Quality of Health Care in America
INSTITUTE OF MEDICINE

NATIONAL ACADEMY PRESS
Washington, D.C.

- 1999
- 44k to 98k deaths per year from medical errors
- “Break the cycle of inaction
Who is going to be responsible for MOC? Will it be the boards, some other private group like JCAHO, or the Federal or State Government?
The Boards want the public and governmental authorities to accept participation in MOC as being reasonable evidence that a practitioner is maintaining his or her professional skills.
General Structure

Major policies and structures

ABMS

ABR

ABIM

ETC

DX

RP

RO

Significant variation

Minor variation
Professional Standing

Practice Quality Improvement

Cognitive Expertise

Lifelong Learning & Self Assessment
The MOC Requirements

- ABR Website
  - www.theabr.org
How do we use MOC in education?

- SDEPS – Self Directed Educational Projects
- SAMS - Self Assessment Modules
- PQI - Practice Quality Improvement
Life Long Learning
SDEP’s for Physicists

- 15 hours per year can come from SDEP’s
  - Self Directed Educational Project
- Total LLL is 25 credits per year
Self Assessment Modules

- 20 [2 per year] physicists
- It has been shown that people tend to choose LLL that they don’t need
- SAMs can help you determine what LLL you actually need.
Educational PQI projects are an excellent way to improve your educational abilities.

AAPM Efforts
Key process to insure ongoing competency

The MOC process can help educators maintain and improve their skills
American Board of Radiology
- EOF Status and Effects of Physics Teaching

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Objective

- Understand the nature of the EOF so you can plan modifications in your resident teaching program
What the ABR Would Like to Be Able to Do?
EOF – 2 Parts

- **Comprehensive Exam**
  - At 36 months (End of 3rd year)

- **Certifying Exam**
  - 27 months after comprehensive
  - ~after residency
  - Can specialize
EOF: Core Exam Categories

- **Organ Systems* (10):**
  - Breast, Cardiac, Endocrine/Reproductive, Gastrointestinal, Musculoskeletal, Neuro, Pediatric, Thoracic, Urinary, Vascular

- **Modalities (6):**
  - Rad/fluoro, CT, MR, Nuclear/Molecular, US, Interventional

- **Fundamentals (2):**
  - Physics, patient safety

* Clinically relevant anatomy, pathophysiology, etc
**EOF: Core Exam Blueprint**

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*minimum 45 questions per category*
Minimum of 90 questions

Each item writing organ system-based category has a physicist-radiologist team

Questions: “clinically relevant” physics
  - How can image quality be improved?
  - What is the source of this artifact?
  - How would you design this examination to minimize excessive radiation exposure?
Repeat CT is requested to determine whether the CBD lesion is a tumor or a stone. What is the most appropriate maneuver?

a) Decrease kVp  
b) Increase kVp  
c) Decrease mAs  
d) Increase mAs
EOF: Core Exam - Scoring

- Each organ system
- Each method
- Patient safety, physics

Scored pass/fail

- Assuming sufficient breadth of content for a confident pass/fail decision
- Minimum 45 questions/category
Effects of EOF on Physics & Safety Training
Physics at All Levels

- **Comprehensive Core Exam**
  - Physics included and can be failed as a category
  - Safety included and can be failed as a category

- **Certifying Exam**
  - Physics and Safety Included

- **MOC Exam**
  - Physics and Safety Included
What is the ideal way to educate?

“He has been immortalized by the aphorism attributed to one of his former students, James A. Garfield: ‘The ideal college is Mark Hopkins on one end of a log and a student on the other.’"
Essay on Modern Medical Education
The Lecture Room.
Plus ça change, plus c'est la même chose
Issues for Physicists

- Physics can no longer be taught to residents in the traditional binge/purge method
- Physics instruction will need to be continuous/just in time and modality specific
- Physics instruction will need to be more sophisticated so instructors will need a strong clinical orientation
Issues for Physicists

- Physics education is not just a part of residency training
- Appropriate materials will be necessary for preparation for the Certifying Exam
- Appropriate materials will be necessary for preparation for the MOC Exam
The Future?

Interest in Passing

Interest in Physics

Time
This is a wonderful opportunity to change the way radiologists view and use physics. We need to rise to the occasion.
End
Innovations in Education
Electronic Medical Physics World