The ABR Oral Examination in Medical Physics – A Review of the Current Status

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The ABR conducts initial qualifying and final oral examinations to ascertain the qualifications of those who have chosen radiology as their professional career pathway. A board-certified radiologist, radiation oncologist, or medical physicist is one who has demonstrated a requisite standard of knowledge, skill, and understanding essential to the practice of radiology.

The examination process in medical physics consists of three parts.

Part 1 establishes qualifications in general medical physics and a knowledge of anatomy, physiology and biology.

Part 2 establishes qualifications in scientific and technical knowledge required to practice in one’s specialty within medical physics (i.e., Therapeutic Medical Physics, Diagnostic Medical Physics, and Nuclear Medical Physics).

Part 3 is the oral examination. The purpose of the oral examination in medical physics is to establish that the candidate is, at the very least, minimally competent to independently practice medical physics in his or her discipline. Minimal competence includes the ability:

- to perform those functions associated with the practice of medical physics for the given specialty;
- to practice in a manner that is safe for patients, colleagues, and peers; and
- to be able to communicate effectively with patients, colleagues, and peers.

Oral exam questions are designed to probe the candidate’s clinical judgment and ability to communicate his or her thought processes. Since it is likely that a candidate will have at least minor deficiencies in his or her knowledge, the examiners will try to elicit how the candidate would correct such deficiencies in clinical practice, i.e., what documents and references would be consulted.

It is recognized that the oral exam process can be stressful and intimidating for some candidates, and it is not unusual for candidates to inadvertently make incorrect statements in the process of being examined. Examiners are educated to probe such statements to determine if the candidates are able to identify and correct their errors. The examiners are trained to be supportive of the candidates, and they will ask follow-up questions designed to help the candidates clarify their thinking and improve their answers. At the same time, the examiners are directed to be neutral in their responses so as to give candidates neither an inappropriately positive nor negative opinion of their performance. To enable

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them to rate candidates fairly and consistently, examiners are expected to develop a clear understanding of the standard against which candidates are being judged.

Each candidate is examined by five examiners, each of whom asks one question from each of five categories (see box). In this way, candidates have five opportunities to demonstrate their knowledge in each category and are less likely to fail in a category by performing poorly with a specific examiner.

Candidates are scored on a five-point scale, in which the middle rung (i.e., “3”) is the minimum passing score representing minimal competency. A candidate must pass in all five categories to pass the oral examination. A candidate who fails in only one category is said to have “conditioned” that category. At the next opportunity, the candidate can be reexamined in that category by two examiners. A candidate who fails in two or more categories must repeat the entire examination.

Oral examiners are selected from diplomates who have at least five years of experience post certification and are judged by their peers to have superior competence in the field in which they are examining. Oral examiners are evaluated by statistical analyses of their performance and, in some cases, through observation by senior examiners.

The exam process is designed to eliminate bias on the part of the examiners. They are “blinded” as to the history of the candidates, their educational and work-related history, and similar details. They are not allowed to examine candidates with whom they have worked closely, candidates in whose training they participated, or candidates from their own institutions.

The ABR views the oral exam in medical physics as an important component of the overall process leading to certification, which includes appropriate academic education, supervised clinical training, and the examination sequence described above. The ABR has recently reviewed the status of the oral examination in medical physics as part of the certification process and has no plans to alter this process in the near future.

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