

# New ACR Requirements for Medical Physicists/MR Scientists in CT, MRI, Nuclear Medicine and PET Accredited Facilities: Frequently Asked Questions

## Initial Qualifications

**Q. I am certified by the American Board of Radiology (many years ago) in “Radiological Physics.” Does this meet the ACR’s board certification requirements for CT, MRI, nuclear medicine and PET?**

A. Yes. Although this particular certification is no longer granted by the ABR, the “Radiological Physics” certification was previously granted to those individuals examined in Diagnostic Radiologic Physics, Medical Nuclear Physics and Therapeutic Radiologic Physics.

**Q. In 1984 I was board-certified by the ABR in Radiation Therapy Physics and in 1992 in Diagnostic Imaging Physics. I currently perform annual surveys for MRI, CT, nuclear medicine and PET. What type of documentation do I have to provide to show I meet the ACR-required initial experience in each accredited modality?**

A. Because you are board certified in Diagnostic Imaging Physics and have already provided documentation of initial experience to the ABR in order to sit for the exam, you do not need to provide documentation of initial experience in MRI and CT. However, since you are not board-certified in Medical Nuclear Physics, you will need to document that you have 3 years of experience in a clinical nuclear medicine and PET environment. Appropriate documentation includes copies of annual survey reports in nuclear medicine and PET over a 3 year period or letters from supervisors or clients documenting this experience.

**Q. I am currently completing a Master of Science degree in Health and Safety. This graduate degree combines physical sciences like health physics/industrial hygiene and safety engineering. I Have a B.S. in Nuclear Medicine and have had many courses in anatomy, physiology, biology, radiation biology. I am The Radiation Safety Officer for a medical center and have been a Radiation Safety Officer on agreement state and Nuclear Regulatory Commission licenses. I am the manager of a nuclear medicine department that is ACR accredited in PET. I have over 10 years of documented experience in clinical Nuclear Medicine and over 5 years experience in PET. As a technologist, I am board certified by the NMTCB and registered by the ARRT. After I complete my graduate degree, will I meet the ACR’s nuclear medicine and PET accreditation program’s qualifications under the “Not Board Certified in Required Subspecialty” option?**

A. Maybe. The “Not Board Certified in Required Subspecialty” option specifies that the graduate degree is in medical physics, radiologic physics, physics, or other relevant physical science or engineering discipline. ***Because these qualifications are for medical physicists, the “relevancy” must be to medical physics. A relevant physical science discipline is one that includes at least 3 graduate courses in medical physics.*** This is consistent with the American Board of Radiology requirements for taking Part 1 of the Radiologic Physics exam. So, if your graduate program includes an adequate number of graduate courses in medical physics, you would meet the qualifications under the “Not Board Certified in Required Subspecialty” option. If it does not, you would not meet the qualifications under that option.

**Q. The “Not Board Certified in Required Subspecialty” option requires documentation of 3 years of experience in a clinical environment of that modality. How extensive must this experience be?**

**Full time? Part time? Is any specific number of surveys required? What kind of documentation is required?**

A. The experience may be full or part time. There is no specific number of surveys required. Appropriate documentation includes copies of annual survey reports within the time period with your name, or letters from supervisors attesting to your clinical experience in that modality.

**Q. We are in the process of hiring another physicist and have one applicant who has just graduated with a MS in medical physics from a medical university. Does his 3 years of experience while in training at the medical school count towards the initial experience requirements under the “Not Board Certified in Required Subspecialty” option?**

A. No. The ACR follows the experience requirements as set out by the American Board of Radiology (ABR). The ABR will credit up to 6 months towards clinical experience to individuals graduating from a Master's level medical physics program that includes a clinical component and up to 12 months to individuals graduating from a Doctoral level medical physics program. See [http://theabr.org/ic/ic\\_rp/ic\\_rp\\_req.html](http://theabr.org/ic/ic_rp/ic_rp_req.html) for additional descriptions of possible credit. Your newly graduated applicant would still need 2½ years of documented experience in a clinical environment to complete the 3 years initial experience requirement. Because he would be completing this initial experience *after January 1, 2010*, it must be obtained *under the supervision of a medical physicist who meets the ACR accreditation program's qualifications*.

**Q. We are in the process of hiring another physicist and have another applicant who graduated with a MS in medical physics from a medical university over 3 years ago. Does his 3 years of experience while in training at the medical school count towards the initial experience requirements under the “Not Board Certified in Required Subspecialty” option?**

A. No. The ACR follows the experience requirements as set out by the American Board of Radiology (ABR). The ABR will credit up to 6 months towards clinical experience to individuals graduating from a Master's level medical physics program that includes a clinical component and up to 12 months to individuals graduating from a Doctoral level medical physics program. See [http://theabr.org/ic/ic\\_rp/ic\\_rp\\_req.html](http://theabr.org/ic/ic_rp/ic_rp_req.html) for additional descriptions of possible credit. Your applicant would still need 2½ years of documented experience in a clinical environment to complete the 3 years initial experience requirement. If this experience was obtained before January 1, 2010, it **does not** need to have been obtained under supervision.

**Q. I fall under the “Not Board Certified in Required Subspecialty” for nuclear medicine and PET. What exactly does the word “experience” refer to in this statement: “3 years of documented experience in a clinical NM/PET environment?” Does it have to be specifically on performing annual surveys? Or will QC oversight and performance of other tests be sufficient?**

A. The experience must include the performance of annual surveys. Only providing oversight of others in the performance of these surveys will not be sufficient.

**Q. The following situation is believed to exist: A medical physicist board-certified in Diagnostic Radiological Physics is overseeing a non-boarded individual who conducts the nuclear medicine and PET annual surveys required to maintain ACR Accreditation. The board-certified medical physicist has no clinical background in either nuclear medicine or PET and has never personally tested a nuclear medicine or PET scanner. However, he/she signs off on the reports prepared by the non-boarded individual for submission to the ACR. The non-boarded person has a non-technical undergraduate degree, no master's degree, and no clinical experience of any kind, but was trained how to perform the surveys by a qualified third party. In the example above, could the board-certified medical physicist be qualified under the “Not Board-Certified in Required Subspecialty” or the “Grandfathered” provision?**

A. If the board-certified medical physicist cannot document at least 3 years of experience in the applicable modality's clinical environment, he/she will not be qualified under the "Not Board-Certified in Required Subspecialty" provision. If the board-certified medical physicist has not **personally** conducted surveys of at least 3 units (in the applicable modality) between January 1, 2007 and January 1, 2010, he/she will not be qualified under the "Grandfathered" provision. In either case, the individual would not be qualified to provide supervision of others conducting the surveys and would not be qualified to sign the report.

**Q. I am licensed as a medical physicist by the state in which I practice and have worked as a medical physicist for over 20 years. Do I now need to obtain board certification in order to qualify to perform annual surveys at ACR accredited facilities?**

A. No. The new criteria do not require that a medical physicist be board certified. Although the new criteria do not specifically address state licensure, if you meet either the "Not Board Certified in Required Subspecialty" or the "Grandfathered" criteria for the modality, you will meet the ACR qualifications to perform annual surveys at accredited facilities.

**Q. I am ABR certified in Diagnostic Radiological Physics. Does this certification qualify me to perform nuclear medicine and PET surveys at accredited facilities?**

A. No, since it is not in a nuclear medicine subspecialty. However, you will qualify under the "Not Board Certified in Required Subspecialty" option if you can document 3 years of experience in a clinical nuclear medicine/PET environment.

**Q. I am ABR certified in Therapy Physics. Does this certification qualify me to perform nuclear medicine and PET surveys at accredited facilities?**

A. No, since it is not in a nuclear medicine subspecialty. However, you will qualify under the "Not Board Certified in Required Subspecialty" option if you can document 3 years of experience in a clinical nuclear medicine/PET environment.

**Q. Can you please tell me the procedure for submitting my application for the "Grandfathering" option under the new requirements?**

A. There is no application process to the ACR for approval of a medical physicist's qualifications. In order to apply for accreditation, the **facility** must ensure that the personnel they use for the accredited modality meets the ACR qualifications. In addition, the facility must have documentation that you meet these requirements. Medical physicists must provide this documentation to the accredited facility. Although the facility is not required to submit documentation of personnel qualifications as part of their accreditation application, they must have documentation on-site in the event of an ACR Site Visit.

**Q. The "Grandfathering" option requires that the medical physicist have conducted surveys of at least 3 units (in the applicable modality) between January 1, 2007 and January 1, 2010. Must these surveys be of ACR accredited units?**

A. No. It is not required that these surveys be of ACR-accredited units. However, the surveys must include all tests required in the accredited modality for the annual survey (as of January 1, 2010). See below for a list of the specific tests for each modality.

**Q. The grandfathering option requires that the medical physicist have conducted surveys of at least 3 units (in the applicable modality) between January 1, 2007 and January 1, 2010. May these be of the same unit surveyed 3 times over a 3 year period?**

A. Yes, as long as the surveys include all tests required in the accredited modality for the annual survey (as of January 1, 2010). See below for a list of the specific tests.

**Q. What is meant by a CT "survey" with regards to the "Grandfathered" requirements for medical physicists?**

A. The surveys must be the ones that ACR requires the medical physicist to perform annually on accredited units. However, the surveys do **not** have to be performed on accredited units. Each survey must include the tests (as applicable to the system tested) currently required by the ACR (as of January 1, 2010). For CT, these would be:

- Alignment light accuracy
- Alignment of table to gantry
- Table/gantry tilt
- Slice localization from scanned projection radiograph (localization image)
- Table incrementation accuracy
- Slice thickness
- Image quality
  1. High-contrast (spatial) resolution
  2. Low-contrast resolution
  3. Image uniformity
  4. Noise
  5. Artifact evaluation
- CT number accuracy and linearity
- Display devices
  1. Video display
  2. Hard-copy display
- Dosimetry
  1. Computed tomography dosimetry index (CTDI)
  2. Patient radiation dose for representative examinations
- Safety evaluation
  1. Visual inspection
  2. Audible/visual signals
  3. Posting requirements
  4. Scattered radiation measurements
- Other tests as required by state or local regulations

**Q. What is meant by a MRI "survey" with regards to the "Grandfathered" requirements for medical physicists?**

A. The surveys must be the ones that ACR requires the medical physicist to perform annually on accredited units. However, the surveys do **not** have to be performed on accredited units. Each survey must include the tests (as applicable to the system tested) currently required by the ACR (as of January 1, 2010). For MRI, these would be:

- Magnetic field homogeneity
- Slice position accuracy
- Slice thickness accuracy
- Radiofrequency coil checks
- Soft-copy display (monitors)

**Q. What is meant by a nuclear medicine "survey" with regards to the "Grandfathered" requirements for medical physicists?**

A. The surveys must be the ones that ACR requires the medical physicist to perform annually on accredited units. However, the surveys do **not** have to be performed on accredited units. Each survey must include the tests (as applicable to the system tested) currently required by the ACR (as of January 1, 2010). For nuclear medicine, these would be:

- Intrinsic uniformity
- System uniformity
- Intrinsic or system spatial resolution

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- Sensitivity
- Energy resolution
- Count rate parameters
- Formatter/video display
- Overall system performance for SPECT systems
- System interlocks
- Dose calibrators
  1. "Test" measurement of battery voltage (if applicable)
  2. Zero adjustment (if applicable)
  3. Background adjustment
  4. Accuracy with NIST traceable standard
  5. Linearity
  6. Geometry
  7. Constancy test
- Thyroid uptake and counting systems
  1. I-123 capsule or long-lived standard calibration check
  2. Count of background
  3. High voltage/gain checks
  4. Energy resolution
  5. Chi-square test

**Q. What is meant by a PET "survey" with regards to the "Grandfathered" requirements for medical physicists?**

A. The surveys must be the ones that ACR requires the medical physicist to perform annually on accredited units. However, the surveys do **not** have to be performed on accredited units. Each survey must include the tests (as applicable to the system tested) currently required by the ACR (as of January 1, 2010). For PET, these would be:

- ACR-approved phantom tests
- Dose calibrators
  1. Constancy test
  2. Linearity
  3. Accuracy with NIST traceable standard

**Q. Since November 2008, I have conducted nuclear medicine surveys for 6 nuclear medicine units at 3 facilities. In each case, I performed the entire survey and simply had a qualified medical physicist sign off on it. Since I performed the surveys, have 16 years experience in a clinical nuclear medicine setting, and am recognized as a Radiation Safety Officer by the state, would this qualify me for the "Grandfathering" option of medical physicist?**

A. No. Since the physicist signed off on the report (thus taking responsibility for ensuring that the tests were performed correctly and reviewing and approving the results), you did not independently serve as the medical physicist in the conduct of these surveys.

**Q. I have been working as a junior diagnostic imaging physicist between January 1, 2009 and January 1, 2010 and am not yet ABR certified. I have performed more than 3 annual surveys each of CT units, MRI units, and nuclear medicine cameras alongside a board-certified medical physicist. Both our names appear on the reports. Would these annual reports provide adequate documentation to show that I met the initial requirements under the "Grandfathered" option?**

A. No. Since the board-certified medical physicist also signed the report (thus taking responsibility for ensuring that the tests were performed correctly and reviewing and approving the results), you did not independently serve as the medical physicist in the conduct of these surveys. However, you will be qualified once you become board certified in the appropriate subspecialty area.

## Continuing Experience

**Q. If I am board certified; do I still need to document that I have done surveys of 2 units in the last 24 months?**

A. Yes. Upon renewal of the facility's accreditation, medical physicists must meet these continuing experience requirements regardless of how they met their initial qualifications (i.e., through the "Board Certification," the "Not Board Certified in Required Subspecialty" or the "Grandfathered" options.)

**Q. I am newly board certified and understand that I will need to document that I have done surveys of 2 units in the last 24 months by the time my facility renews its accreditation. My facility is renewing its accreditation next month and I have not performed surveys of 2 units since becoming qualified via the board certified option. How can I meet the ACR's continuing experience requirements?**

A. Newly qualified individuals have 24 months from the date of qualification (in your case, the date you became board certified) to meet the continuing experience requirements.

## Continuing Education

**Q. If I am board certified, do I still need to document that I have 15 CME of credits in the last 36 months?**

A. Yes. Upon renewal of the facility's accreditation, medical physicists must meet these continuing education requirements regardless of how they met their initial qualifications (i.e., through the "Board Certification," the "Not Board Certified in Required Subspecialty" or the "Grandfathered" options.)

**Q. I am qualified to provide medical physics surveys for accredited nuclear medicine and PET facilities. Is it sufficient to have a fraction of the required 15 CEU/CME in nuclear medicine and PET but not ALL 15 credits?**

A. Yes. Upon renewal of the facility's accreditation, medical physicists must show at least 1 CEU/CME in nuclear medicine and PET. The remaining credits may be in any other area that you believe would benefit your professional continuing education.

**Q. May I count time spent presenting courses/lectures and/or reading/writing articles/papers towards the continuing education requirements?**

A. Personnel may possibly receive continuing education credit for presenting courses/lectures and/or reading/writing articles/papers for journals. These credits must be from organizations who can assess and document the appropriate amount and type of continuing education awarded for the individual article/paper or course/lecture and are authorized to award such credit. Personnel should get a letter or other documentation from the authorized organization stating how many and what type of continuing education credits are awarded and the date the credit was given.

Faculty may claim credit for teaching in programs designated for AMA PRA Category 1 Credit by applying directly to the AMA. Two AMA PRA Category 1 Credits™ are awarded for every hour of interaction, up to 10 credits per year. The application is available at [www.ama-assn.org/go/cme](http://www.ama-assn.org/go/cme) in the Physician Applications section. You will need to download, complete and submit the Direct Credit Application to the AMA for credit. No credits are given for repeat presentations of the same material, it is the responsibility of the applicant to only claim the credit once, and credit may not be simultaneously earned as both a presenter and learner.

Additional information on obtaining continuing education credit for these activities is also available for medical physicists from CAMPEP at <http://www.campep.org/Criteria.asp> and for technologists from ASRT at [https://www.asrt.org/content/CEsponsors/ASRTInFocus/Fall\\_05.aspx#6](https://www.asrt.org/content/CEsponsors/ASRTInFocus/Fall_05.aspx#6).

## Medical Physicist Assistants

**Q. What is the justification for requiring that MR and CT survey data collected by an assistant be overseen by an on-site medical physicist/MR scientist but data collected by an assistant for nuclear medicine and PET may be done under general supervision (if the supervisor is accessible by phone)?**

A. The ACR Accreditation Committees believe that Nuclear Medicine and PET are sufficiently unique in personnel needs and execution of ACR testing to require a different set of performance conditions than the other areas. Some ACR phantoms require the use of short lived ( 2 hrs – FDG, 6 hrs – Tc-99m, 3 days – Ga-67 & Tl-201) radionuclides in areas with restricted access; often tests are performed during the day between patient scans. Many medical physicists are not comfortable drawing dose in the hot lab (many sites restrict access to the pharmaceuticals). Thus, a technologist is required for drawing the dose, making the measurements, loading the phantom and setting up the acquisition. However, the medical physicist must review and approve the data by interpreting and analyzing the images.