

American Osteopathic
Board of Radiology



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April 27, 2006

U.S. Nuclear Regulatory Commission
ATTN: Mr. Thomas H. Essig, Chief
Materials Safety and Inspection Branch (MS T8F3)
11545 Rockville Pike
Rockville, MD 20852

Dear Mr. Essig

I am writing in response to your e-mail of March 8, 2006, requesting further input from the American Osteopathic Board of Radiology (AOBR) regarding its application seeking recognition of its certification processes by the U.S. Nuclear Regulatory Commission (NRC).

1. The AOBR is withdrawing its request for recognition of certification in **Diagnostic Radiology** in 10 CFR 35.190, 10 CFR 35.390, 10 CFR 35.394 and 10 CFR 35.590.
2. It is our understanding that the AOBR has provided all documentation required for consideration of recognition of certification in **Diagnostic Radiology** in 10 CFR 35.290 and 10 CFR 35.392. The referenced AOBR website is attached.
3. The AOBR is seeking recognition of certification in **Radiation Oncology** in 10 CFR 35.390 as follows:

Training for use of unsealed byproduct material for which a written directive is required. (35.390 (a)(1) and (a)(2)).

1. Successfully complete residency training in a radiation oncology program approved by the Program and Trainee Review Committee of the American Osteopathic Association which includes a structured educational program in basic radionuclide handling techniques applicable to the use of manual brachytherapy source. The training program must include 700 hours of training and experience as described in paragraphs 10 CFR 35.390 (b)(1)(i) through (b)(1)(ii)(E) and (G)(2) and (3).
2. Pass an examination, administered by the AOBR, that tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of manual brachytherapy.
3. The AOBR will obtain a written attestation, from the candidate and verified by the program director, that the examination candidate has satisfactorily completed the 700 hours of training and experience as described in paragraphs 10 CFR 35.390 (b)(1)(i) through (b)(1)(ii)(E) and (G)(2) and (3).

The AOBR will only admit for examination candidates who have completed the specific training and experience requirements listed above which are further clarified on the AOBR website (copy attached).

4. The AOBR is withdrawing its request for recognition of certification in **Radiation Oncology** in 10 CFR 35.590.
5. In response to no.8 of the March 8, 2006, e-mail regarding 10 CFR 35.490 and 10 CFR 35.690, the AOBR will only admit, for examination, candidates who complete a 4 year accredited training program in Radiation Oncology and pass the certification examination in Radiation Oncology as listed below:

Training for the use of manual brachytherapy sources (10 CFR 35.490 (a)(1) and (a)(2)).

1. Successfully complete a minimum of 4 years of residency training in a radiation oncology program approved by the Program and Trainee Review Committee of the American Osteopathic Association which includes a structured educational program in basic radionuclide handling techniques applicable to the use of manual brachytherapy source.
2. Pass an examination, administered by the AOBR, that tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of manual brachytherapy.

Training for use of remote afterloader units, teletherapy units, and gamma stereotactic radiosurgery units (10 CFR 35.690 (a)(1) and (a)(2)).

1. Successfully complete a minimum of 4 years of residency training in a radiation oncology program approved by the Program and Trainee Review Committee of the American Osteopathic Association which includes training in basic radionuclide techniques applicable to the use of a sealed source in a therapeutic medical unit.
 2. Pass an examination, administered by the AOBR, that tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of stereotactic radiosurgery, remote afterloaders and external beam therapy.
6. **Required Attestation** - All radiation oncology examination candidates must submit a written attestation, verified by the program director, that the examination candidate has satisfactorily completed the training and experience as described in 10 CFR 35.390, CFR 35.490, and CFR 35.690.
 7. In response to no. 9, the American Osteopathic Association Board of Trustees approved an organizational restructuring in July 2003. Formerly known as the Executive Committee of the Committee on Postdoctoral Training (ECCOPT) of the American Osteopathic Association (AOA), the Program and Trainee Review Council (PTRC) of the AOA has the final authority for approval, denial and/or increases in osteopathic residency training programs, based upon recommendations from the educational evaluating committees of osteopathic specialty colleges.

8. In response to no. 11, we have corrected no. 9 of our letter of January 25, 2006, to include 10 CFR 35.390 (a)(2). It now reads:

In accordance with 10 CFR 35.390 (a)(2), 35.490(a)(2) and 35.690(a)(2) the Radiation Oncology certification examination will assess knowledge and competence in the following areas:

- Radiological Physics (radiation production and interaction with matter)
- Radiation Biology (health effects)
- Radiation Safety and Protection
- Nuclear Medicine
- Radionuclide Handling
- Quality Assurance
- Treatment Planning
- Clinical use of the following:
 - Manual Brachytherapy
 - Stereotactic Radiosurgery
 - Remote Afterloaders
 - External Beam Therapy
 - Unsealed byproduct material for which a written directive is required

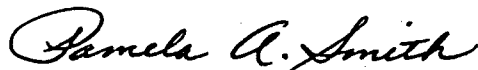
The requirements relative to recognition of the NRC for candidates approved for examination by the American Osteopathic Board of Radiology appears on our website at the following addresses:

www.aocr.org/certification/diagnostic_radiology.asp
www.aocr.org/certification/radiation_oncology.asp

A copy of the requirements as they appear on the website is also enclosed with this letter.

Thank you for the opportunity to submit this additional information in support of AOBR's application for recognition by the Nuclear Regulatory Commission. Please do not hesitate to contact me if additional information is required.

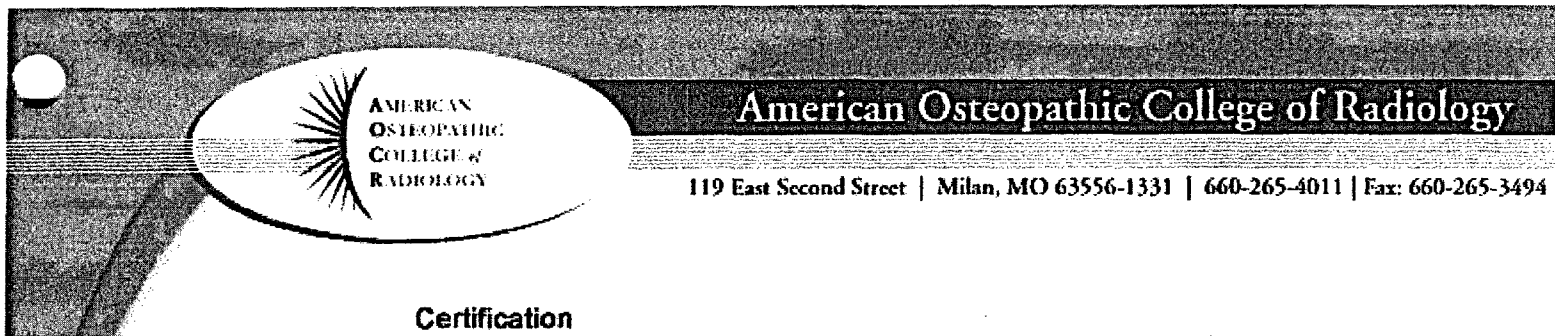
Sincerely



Pamela A. Smith
Executive Director

ENC

cc Kenneth P. Tarr, DO, Chair
Mark S. Finkelstein, DO, Vice Chair
Roy M. Teng, DO, Secretary-Treasurer
Paul J. Chase, DO, Nuclear Medicine Section Chair
Thomas M. Anderson, DO, Radiation Oncology Section Chair



Certification

Diagnostic Radiology

Exam Schedule	Fee Schedule	Application Process and Policies	Written Exam	Oral Exam
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Definition

DIAGNOSTIC RADIOLOGY is that branch of radiology which deals with the utilization of all modalities of radiant energy in medical diagnosis and therapeutic procedures utilizing radiologic guidance. This includes, but is not restricted to, imaging techniques and methodologies utilizing radiations emitted by x-ray tubes, radionuclides, ultrasonographic devices, and radiofrequency electromagnetic radiation emitted by atoms.

Qualifications of Applicants for Examination

- The applicant must be a graduate of an AOA accredited college of osteopathic medicine.
- The applicant must be licensed to practice in the state where his/her practice is conducted.
- The applicant must be able to show evidence of conformity to the standards set forth in the Code of Ethics of the American Osteopathic Association.
- The applicant is required to be a member in good standing of the American Osteopathic Association or the Canadian Osteopathic Association for the two (2) years immediately prior to the date of certification.
- The applicant must have satisfactorily completed a one-year AOA-approved internship.
- The applicant beginning their residency training on July 1, 1989, and thereafter is required to have four (4) or more years of AOA-approved training in diagnostic radiology.
- The applicant beginning their residency training prior to July 1, 1989, is required to have three (3) or more years of AOA-approved training in radiology or diagnostic radiology.
- The applicant must have AOCR approval of all completed training.
- The resident is expected to remain in one program for all years of training. If a transfer to another program is necessary or desired, that transfer must be prospectively approved by the AOCR and notification sent to the AOBR.
- The applicant must complete the requirements of training and experience as stated in the Basic Standards for Residency Training in Diagnostic Radiology which includes 700 hours of nuclear medicine training as defined here

Eligibility for Examination

- Candidates will be considered for the Physics portion of the written examinations only when they are in their second year of training. Successful candidates will be eligible to sit for the Diagnostic Imaging written examination during their third year of training.
- If the candidate has not already passed the Physics examination, he/she may take both the written Physics and Diagnostic Imaging examinations together during their third or fourth year of training or at any examination following training.
- A second opportunity to pass the written Physics examination is offered to candidates who fail the Physics examination in the fall. The exam is scheduled prior to the oral examinations and is offered to any candidate who failed the Physics examination at the previous sitting.

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- Candidates who have passed the written examinations are eligible to take the oral examinations during their fourth year of training or at any examination following training.

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Candidates seeking certification in Diagnostic Radiology from the American Osteopathic Board of Radiology must have completed the training and experience requirements for NRC licensure as stated below:

Training for imaging and localization studies (10 CFR 35.290 (a)(1) and (a)(2))

- I. Successfully complete a minimum of 4 years of residency training in a diagnostic radiology program approved by the Program and Trainee Review Committee of the American Osteopathic Association. The residency training program must include 700 hours of training and experience in basic radionuclide handling techniques and radiation safety applicable to the medical use of unsealed byproduct material for uptake, dilution, and excretion studies that includes the topics listed in (10 CFR 35.290 (c)(1)(i) and (c)(1)(ii)) and defined as follows:
 - A. Complete 700 hours of training and experience, including a minimum of 80 hours of classroom and laboratory training, in basic radionuclide handling techniques applicable to the medical use of unsealed byproduct material for imaging and localization studies. The training and experience must include, at a minimum:
 1. Classroom and laboratory training in the following areas:
 - a) Radiation physics and instrumentation
 - b) Radiation protection
 - c) Mathematics pertaining to the use and measurement of radioactivity
 - d) Chemistry of byproduct material for medical use
 - e) Radiation biology
 2. Work experience, under the supervision of an authorized user, who meets the requirements in 35.290, or 35.290(c)(1)(ii)(G) and 35.390, or equivalent Agreement State requirements, involving -
 - a) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys
 - b) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters
 - c) Calculating, measuring and safely preparing patient or human research subject dosages
 - d) Using administrative controls to prevent a medical event involving the use of unsealed byproduct material
 - e) Using procedures to safely contain spilled radioactive material and using proper decontamination procedures
 - f) Administering dosages of radioactive drugs to patients or human research subjects; and
 - g) Eluting generator systems appropriate for preparation of radioactive drugs for imaging and localization studies, measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs
- II. Pass an examination, administered by the AOBR, which assesses knowledge and competence in radiation safety, radionuclide handling and quality control.

Training for oral administration of sodium iodide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels (33 millicuries) (10 CFR 35.392 (a))

- I. Successfully complete a minimum of 4 years of residency training in a diagnostic radiology program approved by the Program and Trainee Review committee of the American Osteopathic Association. The residency training program must include the training and work experience described in 10 CFR 35.392 (c)(1) and (c)(2) and defined as follows:
 - A. Has successfully completed eighty (80) hours of classroom and laboratory training, applicable to the medical use of sodium iodide I-131 for procedures requiring a written directive. The training must include:
 1. Radiation physics and instrumentation
 2. Radiation protection
 3. Mathematics pertaining to the use and measurement of radioactivity
 4. Chemistry of byproduct material for medical use
 5. Radiation biology; and
 - B. Work experience, under the supervision of an authorized user, who meets the requirements in 35.390(a), 35.390(b), 35.392, 35.394, or equivalent Agreement State requirements. A supervising authorized user, who meets the requirements in 35.390(b) must also have experience in administering dosages as specified in 35.390(b)(1)(ii)(G)(1) or (2). The work experience must involve -
 1. Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys
 2. Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters
 3. Calculating, measuring and safely preparing patient or human research subject dosages
 4. Using administrative controls to prevent a medical event involving the use of byproduct material
 5. Using procedures to contain spilled byproduct material safely and using proper decontamination procedures
 6. Administering dosages to patients or human research subjects, that includes at least three (3) cases involving the oral administration of less than or equal to 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131.
- II. Pass an examination, administered by the AOBR, which assesses knowledge and competence in radiation safety, radionuclide handling and quality control.

Examination Content - The Diagnostic Radiology certification examination will assess knowledge and competence in the following areas:

- Radiological Physics (radiation production and interaction with matter)
- Radiation Biology (health effects)
- Radiation Safety and Protection
- Nuclear Medicine
- Radionuclide Handling
- Quality Control
- Clinical use of unsealed byproduct material for which a written directive is required



American Osteopathic College of Radiology

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Certification

Radiation Oncology

Exam Schedule	Fee Schedule	Application Process and Policies	Written Exam	Oral Exam
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Definition

RADIATION ONCOLOGY is that branch of radiology that consists of the treatment of human disease by the use of roentgen rays, radium, natural and artificial radioactive substances.

Qualifications of Applicants for Examination

- The applicant must be a graduate of an AOA accredited college of osteopathic medicine.
- The applicant must be licensed to practice in the state where his/her practice is conducted.
- The applicant must be able to show evidence of conformity to the standards set forth in the Code of Ethics of the American Osteopathic Association.
- The applicant is required to be a member in good standing of the American Osteopathic Association or the Canadian Osteopathic Association for the two (2) years immediately prior to the date of certification.
- The applicant must have satisfactorily completed a one-year AOA-approved internship.
- The applicant beginning their residency training on July 1, 1999, and thereafter, is required to have four (4) or more years of AOA-approved training in radiation oncology.
- The applicant beginning residency training prior to July 1, 1999 is required to have three (3) or more years of AOA-approved training in radiation oncology.
- The applicant must have AOCR approval of all completed training.
- The resident is expected to remain in one program for all years of training. If a transfer to another program is necessary or desired, that transfer must be prospectively approved by the AOCR and notification sent to the AOBR.
- The applicant must complete the requirements of training and experience as stated in the [Basic Standards for Residency Training in Radiation Oncology](#) which includes 700 hours training as defined [here](#)

Eligibility for Examination

An applicant is eligible to sit for the radiation oncology written examination during the final year of training or at any examination following training.

Candidates seeking certification in Radiation Oncology from the American Osteopathic Board of Radiology must complete the training and experience requirements for NRC licensure as stated as follows:

Training for use of unsealed byproduct material for which a written directive is required (10 CFR 35.390 (a)(1) and (a)(2))

- I. Successfully complete a minimum of 4 years of residency training in a radiation oncology program approved by the Program and Trainee Review Committee of the American Osteopathic Association. The residency training program must include 700 hours of training and experience as described in paragraphs 10 CFR 35.390 (b)(1)(i) through (b)(1)(ii)(E) and (G)(2) and (3)) and defined as follows:
 - A. Complete 700 hours of training and experience in basic radionuclide handling techniques applicable to the medical use of unsealed byproduct material requiring a written directive. The training and experience must include
 1. Classroom and laboratory training in the following areas:
 - a) Radiation physics and instrumentation
 - b) Radiation protection
 - c) Mathematics pertaining to the use and measurement of radioactivity
 - d) Chemistry of byproduct material for medical use
 - e) Radiation biology
 2. Work experience, under the supervision of an authorized user, who meets the requirements in 35.390 or equivalent Agreement State requirements. A supervising authorized user, who meets the requirements in 35.390(b) must also have experience in administering dosages in the same dosage category or categories (i.e., 35.390(b)(1)(ii)(G) as the individual requesting authorized user status. The work experience must involve –
 - a) Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys
 - b) Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters
 - c) Calculating, measuring and safely preparing patient or human research subject dosages
 - d) Using administrative controls to prevent a medical event involving the use of unsealed byproduct material
 - e) Using procedures to contain spilled byproduct material safely and using proper decontamination procedures
 - f) Administering dosages of radioactive drugs to patients or human research subjects involving a minimum of three cases in each of the following categories for which the individual is requesting authorized user status –
 - (1) Oral administration of greater than 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131
 - (2) Parenteral administration of any beta emitter or a photon-emitting radionuclide with a photon energy less than 150 keV for which a written directive is required
- II. Pass an examination, administered by the AOBR, which tests knowledge and competence in radiation safety, radionuclide handling, quality assurance, and clinical use of unsealed byproduct material for which a written directive is required.

Training for the use of manual brachytherapy sources (10 CFR 35.490 (a)(1) and (a)(2))

- I. Successfully complete a minimum of 4 years of residency training in a radiation oncology program approved by the Program and Trainee Review Committee of the American Osteopathic Association.
- II. Pass an examination, administered by the AOBR, that tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of manual brachytherapy.

Training for use of remote afterloader units, teletherapy units, and gamma stereotactic radiosurgery units (10 CFR 35.690 (a)(1) and (a)(2))

- I. Successfully complete a minimum of 4 years of residency training in a radiation oncology program approved by the Program and Trainee Review Committee of the American Osteopathic Association.
- II. Pass an examination, administered by the AOBR, which tests knowledge and competence in radiation safety, radionuclide handling, treatment planning, quality assurance, and clinical use of stereotactic radiosurgery, remote afterloaders and external beam therapy.

Required Attestation -The examination candidate must submit a written attestation, verified by the program director, that the examination candidate has satisfactorily completed the training and experience as described in 10 CFR 35.390, CFR 35.490, and CFR 35.690.

Examination Content - In accordance with 10 CFR 35.390 (a)(2), 35.490(a)(2) and 35.690(a)(2) the Radiation Oncology certification examination will assess knowledge and competence in the following areas:

- Radiological Physics (radiation production and interaction with matter)
- Radiation Biology (health effects)
- Radiation Safety and Protection
- Nuclear Medicine
- Radionuclide Handling
- Quality Assurance
- Treatment Planning
- Clinical use of the following:
 - Manual Brachytherapy
 - Stereotactic Radiosurgery
 - Remote Afterloaders
 - External Beam Therapy
 - Unsealed Byproduct Material for which a written directive is required