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DIAGNOSTIC RADIOLOGY
NUCLEAR MEDICINE
ULTRASOUND

02 17-3 2157
emp

March 3, 1982

148

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

DOCKET NUMBER
PROPOSED RULE *PR-Misc. Notice*
(49 FR 3228)

Attention: Docketing and Service Branch

Gentlemen:

I have just reviewed the Federal Register Publication of January 22, 1982 with regard to the revised training and experience criteria for Nuclear Medicine physicians. I support this revision.

Nuclear Medicine is a complex medical specialty which is constantly changing. Adequate background in radiation physics, radiation protection, and radiation biology are essential in evaluating these procedures and determining their proper use.

I do feel that the term Nuclear Cardiology should be omitted from the regulations. I believe that the term Nuclear Physician is all inclusive. The use of the two terms tends to create a separation between Nuclear Medicine and Nuclear Cardiology that should not exist. The basic science background should be the same for all physicians practicing a significant amount of Nuclear Medicine.

As stated above I strongly support the proposed revision. Establishing realistic minimum training requirements will assure that we have qualified practitioners in Nuclear Medicine. This is in the best interest of the patient.

Sincerely yours,

T.J. Roper
T. J. Roper, M.D.

TJR/gr

D509
5/10
Add:
S. Delmedico

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Professor of Radiology
and

Co-Director, Divisions of Nuclear Medicine

ALBERT EINSTEIN COLLEGE OF MEDICINE

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March 3, 1982

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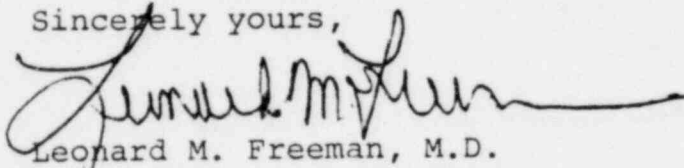
Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D.C. 20055

Dear Sir:

I wish to take this opportunity to support your revised training and experience criteria for nuclear medicine physicians. You have clearly recognized the ever-increasing complexity and sophistication of nuclear medical practice by increasing the required training period from three to six months. This is particularly essential for those physicians who do not have a background in the radiological sciences. Radiology residents receive considerable training in radiobiology and radiation safety as it applies to both personnel and patients. Despite this, the American Board of Radiology has already agreed to increase specific nuclear medicine training from three to six months. I am concerned since other physicians such as cardiologists and endocrinologists could really use more than six months training time to master these skills. However, it would appear that six months is probably a reasonable compromise. It certainly should not be any less than six months.

Thank you for the opportunity to comment on this matter.

Sincerely yours,



Leonard M. Freeman, M.D.

LMF:ec

147
DOCKET NUMBER DR- Misc. Notice
PROPOSED RULE (47 FR 3228)

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Add:
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DIVISIONS OF NUCLEAR MEDICINE



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8 March 1982

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Docketing and Service Branch

Dear Sir:

The following comments are submitted on behalf of the 15,000 members of the American College of Radiology with regard to a proposal for revised training and experience criteria for nuclear medicine physicians as published in the 22 January 1982 Federal Register (47 FR3228-3231).

The members of the College include the largest group of physicians and radiation scientists who utilize radioactive materials in the diagnosis and treatment of disease. ACR members are diplomates of the American Board of Radiology, the Royal College of Physicians and Surgeons of Canada or of the British Faculty of Radiologists. Some also are certified by the American Board of Nuclear Medicine.

A majority of ACR members are licensed by the NRC or an agreement state or work under an institutional license in their application of radioactive materials. All have completed a three or four year residency training program in general radiology or one of its major disciplines, diagnostic or therapeutic radiology. Many are designated as having "special competence in nuclear radiology" by the ABR.

The College's expert committees and many of its members in their individual capacities have worked with the NRC over three decades in the development of the disciplines of nuclear radiology, isotopic pathology and nuclear medicine. We are aware of the legislative and regulatory burdens upon the NRC which relate to the safe and efficacious use of radioisotopes in medical procedures.

The growth of these areas with an admirable safety record is a tribute to dedicated physicians and to enlightened regulation. However, we recognize that such regulation is predicated upon the professional demonstration of responsibility for training programs which stress radiation safety as an integral part of the entire concept of imaging with ionizing radiation.

Coincident with the NRC inquiry about the adequacy of a three-month period for physicians to familiarize themselves with isotope handling and techniques within radiology residencies, the American Board of Radiology has also been reviewing the same areas and has concluded that a six-month period is more appropriate. An advisory letter from the ABR to training directors informed them of the board's intent to extend the diagnostic residency period to four years, including at least six months devoted to nuclear imaging. The pertinent section of that letter is attached.

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PR-Misc. Notice
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ADD:
J. Delmedico

Secretary of the Commission

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This extension is recognition of the numerous advances in imaging which must be mastered by a young physician seeking to specialize in this rapidly developing field. Since radiologists serve as consultants to clinicians in all disciplines, they must achieve both a competence in imaging techniques and clinical acuity sufficient to allow them to contribute to the differential diagnoses of the range of diseases confronting modern medicine.

In comments on various NRC proposals, the ACR has urged the NRC to rely upon the examinations of the American Board of Radiology and of the conjoint American Board of Nuclear Medicine as qualification for the diagnostic applications of radioactive materials. We note with approval the reliance placed upon such board certification in the proposed changes.

With regard to these current proposals, ACR representatives have met with the Advisory Committee on Medical Uses of Isotopes on several occasions. Many of our suggestions have been incorporated into the January draft. We have several others. We recognize that the major area of concern in the proposal is the qualification of those physicians who lacked the opportunity or who did not choose to complete a residency program acceptable to the ABR or the ABNM. In recognizing that the NRC has an obligation to provide an alternative route to its licensure we emphasize that this alternative should not abase the levels of clinical practice and radiation safety which have been attained by adherence to existing standards.

We recognize, too, that the NRC has received requests from physicians in another discipline, cardiology, for permission to use isotopes independently in certain procedures without attaining the standards of proficiency and safety generally required by the NRC. As we have pondered this request, we conclude that such concessions would be contrary to the public interest and to the NRC's proper exercise of its responsibilities for safe and efficacious uses of medical isotopes.

We have great admiration for our colleagues in cardiology. Some individuals among them have made contributions to imaging procedures. But based upon our familiarity with their training, we reject any concept that they generally acquire within their training programs or otherwise a background in radiation science sufficient of itself to support independent use of ionizing radiation sources. So far as satisfying the basic NRC mandate for assuring safe and efficacious uses of isotopes, there should be no double standard or shortcut.

As we have pointed out in the past, the NRC properly refrains from telling its medical licensees how they should use radioactive materials, for which patients, in which examinations or treatments and in what amounts. This was the basis for our objection to the "misadministration rule" now under review.

Thus, we do not suggest that the NRC tell cardiologists that they might not undertake imaging procedures. Rather, we urge that the NRC tell cardiologists that they must meet a commonly accepted standard of training if they wish to spurn the collaboration of their colleagues who do meet those standards. We know of no reason why cardiologists should spurn such collaboration. But that is not the NRC's proper concern.

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The ACR suggested previously that the cardiologist has a responsibility for the physiologic testing which sometimes accompanies cardiac imaging. His participation is normally welcomed by the radiologist or nuclear medicine physician responsible for the production and interpretation of the images.

At its September 1981 session, the Council of the ACR adopted a statement on this medical collaboration for imaging procedures of the cardiac area which is contained in the following six paragraphs:

Statement Relating to Resolution Regarding Nuclear Cardiology

In the development and performance of cardiovascular nuclear medicine procedures, close cooperation between cardiologists and nuclear physicians/radiologists is desirable for optimal patient care.

The nuclear physician/radiologist should be certified by the American Board of Nuclear Medicine or the American Board of Radiology (with special competency in nuclear radiology), or have the equivalent training or experience. He should be trained in clinical medicine, physiology, instrumentation, radiopharmaceutical chemistry, radiation safety, radiation dosimetry, quality control, computer science, imaging techniques and image interpretation. He should understand the relationship of nuclear techniques to other diagnostic modalities.

The cardiologist should be certified by the American Board of Internal Medicine and the Subspecialty Board of Cardiovascular Disease or have equivalent training or experience. He should be trained in cardiac anatomy, physiology, pharmacology, pathophysiology of cardiovascular disease, and cardiovascular diagnostic procedures. He should be expert in electrocardiographic monitoring, exercise testing and cardiopulmonary resuscitation.

In some instances, a physician may have equivalent training, experience and expertise in both nuclear medicine and cardiology. Such individuals can assume total responsibility for the patient undergoing studies ordinarily requiring the presence of both specialists such as stress testing.

The cardiologist should be primarily responsible for the clinical care of the patient. He should provide a clinical assessment of the patient, assure the safe and appropriate performance of all physiologic and pharmacologic stress testing and plan for patient monitoring and resuscitation during the study.

The nuclear physician/radiologist should be responsible for the performance and interpretation of the procedures. He should understand the diagnostic problem and purpose of the study, supervise the performance of the study and insure the adequacy of the data obtained. The nuclear cardiology unit, as a consultative service, should work as a team to determine the appropriate studies for a given patient.

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In contradiction to any allegation that patients would be deprived of access to these examinations without concessions to cardiologists, I append the summary results of a survey made by the ACR in the summer of 1980. A separate survey by Dr. Henry Wagner, published in the Journal of Nuclear Medicine, v 20, p377, indicates that cardiologists, acting upon their own, performed less than 5 percent of nuclear imaging procedures of the heart. Since cardiologists seldom perform imaging or other procedures on the extra-cardiac or peripheral vascular system, there would be no public need served by concessions in connection with such examinations.

Turning to the draft language of Appendix A (47FR3229-30), several points arise. As an aside, it is our impression that the physicist members of ACMUI are certified in radiological physics, rather than health physics. Some may hold both. But for this particular area, radiological physics would be the more pertinent discipline. (3229, col 1)

In paragraph III, the concept of preceptor training and certification is raised. No definition of the qualifications of a preceptor is offered, either in Appendix A or by reference. This omission could be particularly bothersome if the concept of limited certification is retained. (3229, col 1)

We urge deletion of paragraph VI dealing with training for specific diagnostic procedures. As we have argued above, there is no unmet public need to which this would respond. Further, the creation of one or a series of limited licenses presents a burden to the NRC which need not be incurred. The availability of fully qualified nuclear radiologists and nuclear physicians and of training programs which are comprehensive for this purpose makes such shortcuts and exceptions unnecessary.

At 3230, in table 1, it is the opinion of our expert committees that certification by the American Board of Radiology in diagnostic radiology is adequate qualification for the performance of procedures in groups I, II and III. It is their opinion that certification by the ABR in diagnostic radiology "with special competence in nuclear radiology" is adequate qualification for the performance of procedures in groups I, II, III and IV.

As the ABR moves to its longer training requirement, the distinction now reflected by the "special competence" will be succeeded by the more intensive requirement for all diagnostic radiology candidates. We are concerned that the NRC recognize that the ABR change will require time to implement. The ABR is sensitive to the commitments made to residents now in training and to the problems of program directors in making a change such as the one table required. Thus, it will be desirable for the NRC to recognize the qualifications of current radiology residents during the interim period.

Secretary of the Commission

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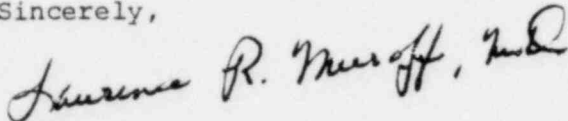
Moving to the training requirements for unsealed sources at 3230, our committees are supportive of the extent of the training (1200 hours) and the areas to be covered. However, they point out that the areas cited in section B could better be covered if they were integrated with the requirements in section C in a continuum. This would be more consistent with current medical teaching methods. The details can be left to Residency Review Committees for the disciplines involved.

They suggest also that language be added in this section to make clear that the 200 hours of basic radiation science in section A can be presented to candidates within the same six-month period as the practical experience.

In section B there is reference to a "qualified instructor" with no definition of the intent. This qualified instructor likely would be a different individual from the "preceptor." One method would be to specify that the instructor for this segment be a qualified radiation scientist (physicist, chemist, radiologist, technologist). Another would be to charge the institution with defining the term, subject to review by the suitable Residency Review Committee.

These comments represent the consensus expressed by members of the ACR Commission on Nuclear Medicine and the Commission on Radiation Therapy. If we can provide additional information, please contact our Washington Office.

Sincerely,



Lawrence R. Muroff, M.D.

Chairman

Commission on Nuclear Medicine

LRM:OWL/js

cc: Executive Committee

Commission on Nuclear Medicine

REPORT OF THE SURVEY OF ACR MEMBERS
CONCERNING NUCLEAR IMAGING

May-June 1980

Early in May 1980, the American College of Radiology's Commission on Nuclear Medicine surveyed the entire physician membership of the ACR as to their activity in nuclear imaging. Of the 10,765 individuals queried, 4,300 (42%) responded. The results of this survey are herewith presented. Exact totals, and the percentage of physicians who answered the individual question being reported on, are given.

All of the original source documents from this survey are available in the ACR Washington office should anyone desire to verify the data presented or to garner additional information by combining the results of two or more questions. Inasmuch as there is a degree of confidentiality associated with this material, it is suggested that Dr. James Christie, Chairman of the Commission on Nuclear Medicine be contacted with an explanation of the use to be made of the material desired.

QUESTION 1: Are you personally doing any nuclear radiology?

Of the 4,391 radiologists who responded to this question, 3,001 indicated that they indeed did some nuclear radiology and 1,390 indicated they did none. Thus, 68.34% of the respondents answered in the affirmative.

QUESTION 2: Percent time.

There are several ways to answer this question, and so, a multiple response is herewith presented. Please note that in order to establish the different groups reported on, there has been an association with Question 1, board certification.

Looking at all the 3,001 individuals who claimed to do some nuclear imaging, the average time spent was 14.4%. The range was from less than 1% of an individual's time to 100%.

Concerning the 30 individuals who indicated in Question 1 that they have received a "special competency" designation from the ACR, they spend an average of 18.3% of their time doing nuclear imaging. The range of time spent was from less than 1% to 100%.

Concerning the 550 individuals who reported they have passed the ABNM examination (but have not received a "special competency" designation from the ABR), they spend an average of 16.36% of their time doing nuclear imaging. The range of time spent was from 1% to 100%.

Concerning the 71 individuals who indicated they had passed the ABNM examination and had also received the "special competency" designation from the ABR, the average time they spend doing nuclear imaging was 49.13%. The range of time spent was from 5% to 100%.

With regard to all the individuals who said they had received a "special competency" certification from the ABR, or had passed the ABNM examination or both (total 701) the average time spent doing nuclear imaging was 23.63%.

With regard to the remainder of those radiologists (total 2,300) who said they did nuclear imaging (those who have not received the "special competency" certification by the ABR and not passed the ABNM examination) the average time spent doing nuclear imaging was 9.57%. The range of time spent was from 1% to 100%.

Of the individuals who claim that they do no nuclear imaging, 13 claim to have the "special competency" designation from the ABR, 33 claim that they have been certified by the ABNM, and 4 claim both the "special competency" designation of the ABR and certification from the ABNM.

QUESTIONS 3 AND 4: Board certification and year certified.

Not all the respondents to the questionnaire answered these two questions for ABR certification, but it can be assumed that only radiologists responded since the ABR membership list was used exclusively. By the same token, some respondents gave multiple answers to these questions. Therefore, the over-all totals will not match the number of questionnaires mailed.

A total of 3,381 respondents indicated they have been certified by the ABR. Years of such certification were from 1936 to 1980.

A total of 170 respondents indicated they have received the ABR "special competency" designation in nuclear radiology in the years between 1974 and 1980.

A total of 575 respondents indicated they have received certification by the ABNM between 1972 and 1980.

QUESTION 5: Extent of formal training in nuclear radiology.

This question was answered by 4,093 respondents. Of this total 3,887 (95.0%) indicated that they had had only 3 months of training in nuclear radiology, 540 (14.91%) had 1 year of training, 114 (2.83%) had two years of training, and 332 (8.13%) had training of some other length of time. The breakdown of the varying lengths of training is as follows:

No training - 78	6 weeks - 4	14 months - 1
Seminars only - 3	2 months - 14	15 months - 1
Residency (unspecified length) - 18	300 hours - 1	16 months - 1
12 hours - 1	4 months - 100	18 months - 1
1 week - 1	5 months - 31	20 months - 1
2 weeks - 2	6 months - 136	1 years - 16
3 weeks - 1	7 months - 5	5 years - 1
1 month - 10	8 months - 1	6 years - 2
	9 months - 16	

On the job training - 17

2 years - 1	12 years - 3	20 years - 1
4 years - 1	15 years - 2	24 years - 1
5 years - 2	17 years - 1	25 years - 1
7 years - 2	19 years - 1	31 years - 1

Of the 4,193 respondents to this question, 1,068 (24.31%) indicated they had 6 months or more training. Of this total, 880 (82.63%) said they were doing nuclear imaging and 186 (17.37%) said they were not.

QUESTION 6: Is your principal hospital/clinic doing nuclear cardiology?

There were 4,127 responses to this question. Of this total, 1,643 (61.08%) answered in the affirmative and 1,684 (38.92%) in the negative.

QUESTION 7: Who in your principal hospital/clinic is doing nuclear cardiology?

Of the 1,633 individuals who answered this question, 1,480 (87.92%) said nuclear cardiology was being performed by the radiologist, 112 (6.30%) said the cardiologist was performing the nuclear cardiology, and 41 (2.78%) said it was a combined effort.

QUESTION 8: Is a combined effort (radiologist and cardiologist) in the arrangement satisfactory?

A total of 112 respondents indicated that they considered the combined effort to be less than satisfactory. Of this total, 40 offered no explanation as to why the arrangement was less than satisfactory. The remainder of the responses are as follows:

- Patients are not referred by radiology
- Radiologist does not cooperate in reading of studies
- Cardiologists view nuclear medicine as a threat and thus do not cooperate
- Financial and personality difficulties
- Radiologist wants to read images
- Wants to do all work in nuclear medicine but need equipment
- No resident radiologist

- Lack of control and delays
- Poor correlation because pathologist does nuclear medicine
- Cardiologist object to double interpretation results
- Not enough nuclear medicine time
- Too expensive - can be time cheaper by radiology alone
- Significant problems between departments
- Cardiologist stress and time problem
- Insufficient support by cardiologists
- Problems of physical location of departments
- Nuclear medicine is under internal medicine
- Cardiologist tries to take over subject
- Nuclear imaging controlled by cardiologist
- Radiologists not involved in nuclear cardiology
- Radiologists to go - not properly
- Poor expertise in nuclear medicine
- Nuclear medicine not under supervision of radiology
- May become more cooperative as time equipment becomes available
- Administrative problems - only cardiologist get stress
- Scheduling - cardiologist requested to come for study
- Problems as to who should do interpretation
- Radiology and pathology have control
- Interpretation responsibility is nuclear imaging and radiology compare with their own 'department' studies and results
- Cardiologist needs little information - depends on the time of the process
- Radiology does not have sufficient
- Little expertise for radiology assessment
- Not sufficient - to radiology, report submitted

- Political problem
- Access to camera and controls is not limited to qualified personnel
- Cardiologists sending patients to other hospitals where they have greater control
- Each department doing their own studies
- No cooperation
- Cardiologists not referring - doing their own stress
- Scheduling difficulties - not enough history supplied
- Separate facilities
- Cardiologist will not cooperate - does studies himself
- Conflict
- Cardiology trying to take over
- Cardiologist will not review cases - only reads radiologists' reports
- Cardiologist trying to 'enter the picture'
- Economic and geographic obstacles
- Nuclear department technically in command of internists
- Time and personnel integration problems
- No fee for services
- No full-time cardiologist and insufficient equipment
- Lack of adequate control
- Would rather see imaging under radiology service
- Radiologists do most of the interpretation
- Cardiologists want to interpret stress studies but do not have an MCO license
- Cardiologists want to do studies and are developing referral
- Radiologists not interested
- Done by pathologist
- Technical aspect controlled by radiologist, clinical aspect by cardiologist

- Prime-time coverage only by outside physician
- Political problem - say nuclear cardiology not good enough
- Scheduling problems - minimal reimbursement
- Cooperative protocol being developed with cardiologist and treadmill
- Excluded from this aspect of nuclear medicine
- Cardiologist demands complete control
- No cardiologist in hospital
- Scheduling problems
- Being performed by nuclear medicine physician
- Nuclear medicine under pathology
- Radiologist not required: should be done by cardiologist

QUESTION 9: In your principal hospital/clinic by whom is nuclear radiology performed?

In vivo studies. A total of 4,460 physicians responded to this question - 1,143 (25.6%) said that the radiologist was doing the imaging, 112 (2.5%) said it was done by the pathologist, 311 (7.0%) said it was performed by the nuclear medicine physician, and 74 (1.6%) reported imaging being done by some other medical specialist.

In vitro studies. Fewer responses were received to the second part of this question, a total of 4,161. Of this total 800 (19.2%) said the radiologist was doing this aspect of nuclear medicine, 1,649 (39.6%) said it was the pathologist, 381 (9.1%) said it was the nuclear medicine physician, and 111 (2.7%) indicated that some other medical specialist was doing the in vitro studies.

QUESTION 10: In your principal hospital/clinic, in what department is nuclear imaging within?

A total of 4,148 responses were received to this question: 1,001 (24.1%) said nuclear imaging was within radiology, 119 (2.9%) said it was within pathology, 154 (3.7%) said it was within a separate department, and 30 (0.7%) indicated it was located with some other (unspecified) department.

NM

The American Board of Radiology

OFFICE OF THE PRESIDENT
Harold G. Jacobson, M.D.

DEPARTMENT OF RADIOLOGY
MONTEFIORE HOSPITAL AND MEDICAL CENTER
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PRESIDENTIAL NEWSLETTER

February 8th, 1982

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Robert W. McConnell, M.D.
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Sidney W. Nelson, M.D.
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Philadelphia, Pennsylvania
Theodore E. Keiss, M.D.
Charlottesville, Virginia

Otha
Link

Dear Program Director:

Much has happened in Radiology and its sub-branches since the previous Presidential Newsletter of May, 1981. First of all, three senior trustees completed their service on the American Board of Radiology in June, 1981. These three trustees - Robert N. Cooley, M.D., John M. Dennis, M.D. and E. Richard King, M.D. - were truly outstanding in their service on the Board and in their contributions to Radiology in general. They have been replaced by three similarly outstanding individuals who promise to contribute in much the same superior fashion as their predecessors. These are Jack Edeiken, M.D., Thomas Meaney, M.D. and William E. Powers, M.D. M. Paul Capp, M.D. was elected a trustee to fulfill the unexpired term of Kenneth L. Krabbenhof, M.D. who became secretary of the American Board of Radiology on January 1, 1981 and continues to serve as a trustee in that capacity. In addition, the late Norah du V. Tapley, M.D., whose untimely death was announced in the Presidential Newsletter of May 18, 1981 and who contributed so significantly to the Board and to Therapeutic Radiology, was replaced by Lawrence W. Davis, M.D.

For the first time in the history of the American Board of Radiology a radiological physicist, Jack Krohmer, Ph.D., was elected a trustee of the American Board of Radiology - a convincing indication of the growing importance of radiological physicists to Radiology.

Over the past several months the trustees of the American Board of Radiology have been confronted with a number of important issues and have been forced to make vital decisions regarding these issues. The most important subjects deal with changes in the examination procedures, training

requirements and the matter of special competency certification in Diagnostic Radiology. The Examination Committee of the American Board of Radiology and its various sub-committees, after long and careful deliberations, made important recommendations to the trustees of the American Board of Radiology. These approved recommendations which follow promise to have far reaching consequences on the entire discipline of Radiology:

DIAGNOSTIC RADIOLOGY AND DIAGNOSTIC RADIOLOGY WITH SPECIAL COMPETENCE IN NUCLEAR RADIOLOGY

1. Requirements for the residency training program in Diagnostic Radiology will be expanded from the currently acceptable three years to a mandatory four years as of July 1, 1984. In this connection six months of training in Nuclear Radiology* will be required during the four year program in Diagnostic Radiology.

2. The requirements for certification in Diagnostic Radiology with Special Competence in Nuclear Radiology will remain unchanged. Three years of training in Diagnostic Radiology will continue to be required with an additional fourth year to be spent in Nuclear Radiology in an approved Department of Diagnostic Radiology, Diagnostic Radiology with Special Competence in Nuclear Radiology or Nuclear Medicine.

3. The American Board of Radiology has postponed the requirement of a clinical year prior to entering an approved training program. This was to have become effective July 1, 1983. This action is being taken due to consideration by the American Medical Association of changing PGY-1 requirements.

The starting date for a mandatory clinical year has not been determined at this time, although it is possible that this will not be before 1986.

The trustees of the American Board of Radiology believe, however, that a clinical year should be encouraged in all branches of Radiology.

*Special emphasis must be given to nuclear (digitized) cardiac imaging.

4. The principle was affirmed that Program Directors should have considerable freedom and flexibility in structuring the amount of time to be spent in the various sub-sections of the residency training programs.

5. It was decided to delay action on the application for and the creation of any new Special Competency Certificates in Diagnostic Radiology (e.g. neuroradiology) at this time, pending careful evaluation of the effects of the mandatory increase from three to four years in the programs in Diagnostic Radiology.

6. Reference is made again to the addition of the new 8th category in the oral examinations in Diagnostic Radiology and Diagnostic Radiology with Special Competence in Nuclear Radiology. This 8th category will deal with computerized tomography and ultrasonography, as described in the Newsletter of May 18, 1981. It is again affirmed that examiners in all other existing categories may continue to include computerized tomography and ultrasonography in their examinations if they so desire. It is also emphasized that standardized sets of ultrasound images will be used on both white on black and black on white formats as they appear in the published literature and in practice.

THERAPEUTIC RADIOLOGY

1. Commencing with the oral examinations in June, 1983 candidates in Therapeutic Radiology with one condition will be re-examined by two examiners. The candidate must pass with both of these examiners to remove the condition, regardless of the average of the grades of the two examiners.

FEES

The increase in cost of applications for the written and oral examinations which took effect on January 1, 1981 was necessitated by the effects of inflation.

RADIOLOGICAL PHYSICS

1. Effective April 1, 1982 the fee for new applications in Radiological Physics will be increased to \$350.00. The re-examination fee will remain at \$250.00.

2. Effective April 1, 1983 a subsequent increase in the application fee to \$400.00 will take place. The re-examination fee will remain at \$250.00.

* * * * *

APPLICATIONS FOR EITHER THE WRITTEN OR THE ORAL EXAMINATION TO BE GIVEN IN ANY YEAR WILL NOT BE ACCEPTED PRIOR TO APRIL 1 OF THE PRECEDING YEAR AND MUST BE FILED NO LATER THAN THE DEADLINE OF SEPTEMBER 30 OF THE PRECEDING YEAR.

* * * * *

WRITTEN AND ORAL EXAMINATIONS

1. The written examinations for 1982 will be given on Thursday P.M. October 7th, and Friday A.M. October 8th. The written examinations in 1983 will be held on Thursday P.M. October 6th and Friday A.M. October 7th.

2. The oral examinations for 1982 will be given the week of May 31st at the Executive West in Louisville, Kentucky.

3. The written and oral examinations in the various sub-fields in radiology and radiological physics are being carefully evaluated and re-evaluated as to content, validity, cost, etc.

Finally, the American Board of Radiology will sponsor an Instructional Course at the next meeting of the American Roentgen Ray Society in May, 1982. The content of this Instructional Course is essentially the same as the Refresher Course presented during the meeting of the Radiological Society of North America in Chicago in November 1981. The course will deal primarily with the structure and function of the Residency Review Committee (RRC) in Radiology - a subject matter which is of great general interest to all Program Directors and to many others concerned with residency training. This course, when presented in Chicago, was very well attended and in general very positively acclaimed. The date for presentation of the course (#406) in New Orleans is scheduled for Thursday, May 13, 1982 from 8-9:30 A.M. A

February 8th, 1982

copy of the planned program is appended.

In conclusion, many important issues confront all of us in Radiology and its various subspecialties with the development and introduction of revolutionary new techniques, e.g. computerized tomography, digital subtraction radiography, nuclear magnetic resonance and positron emission tomography.

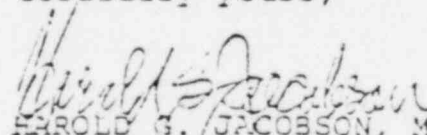
The skilled therapeutic radiologist must be conversant with and frequently involved in the administration of chemotherapeutic agents in the treatment of malignant disease.

The various problems are difficult and as one is apparently solved another takes its place. Those listed in the foregoing represent only a few of the major issues that confront us now and in the future.

At any rate, it has been said by a number of people that unhappy radiologists do not exist, primarily because the field is so exciting, stimulating and constantly changing. We are most fortunate to be part of this great specialty, which has assumed in a very short time such enormous importance in the practice of medicine. What lies on the horizon and even beyond cannot be predicted with any great degree of accuracy. It is apparent that the radiologists of today live in a world of constant change and continuous excitement.

The trustees of the American Board of Radiology join me in extending our best wishes for a happy and healthy 1982 for all of you and your families.

Cordially yours,


HAROLD G. JACOBSON, M.D.
President
The American Board of Radiology

HGJ:lc
enc.

THE AMERICAN BOARD OF RADIOLOGY REFRESHER COURSE

AMERICAN ROENTGEN RAY SOCIETY

NEW ORLEANS, LOUISIANA

THURSDAY, MAY 13th, 1982 - 8:00 - 9:30 A.M.

STRUCTURE AND FUNCTION OF THE RESIDENCY REVIEW

COMMITTEE (RRC) IN RADIOLOGY

- I) The basic requirements for the training programs as described in the Essentials of Accredited Residencies and particularly in the Special Requirements.

a) DIAGNOSTIC RADIOLOGY

Sidney W. Nelson, M.D.
10 minutes

b) DIAGNOSTIC RADIOLOGY WITH
SPECIAL COMPETENCE IN
NUCLEAR RADIOLOGY

James H. Christie, M.D.
10 minutes

c) THERAPEUTIC RADIOLOGY

Luther W. Brady, M.D.
10 minutes

- II) The decision making role of the RRC in Radiology, including consideration of data provided by the Program Director and the methods used by the RRC in dealing with this data.

Ronald G. Evens, M.D.
15 minutes

- III) The types of surveys and the selection of the surveyors.

Jerome F. Wiot, M.D.
10 minutes

- IV) The role of the Accreditation Council for Graduate Medical Education (ACGME) and the mechanism provided for appeal.

Kenneth L. Krabbenhoft, M.D.
10 minutes

- V) The organization of the RRC in Radiology, e.g. sponsoring or parent members and the method of affecting change in sponsorship.

Robert N. Cooley, M.D.
10 minutes

- VI) The role of the resident member on the RRC and a retrospective evaluation by a former resident member.

Thomas B. Jones, M.D.
5 minutes

- VII) Discussion

Harold G. Jacobson, M.D. - MODERATOR



Doctors Hospital/1087 Dennison Avenue/Columbus, Ohio 43201/(614) 421-4321

March 1, 1982

emp

144

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

DOCKET NUMBER
PROPOSED RULE

PR-Misc. Notice
(47 FR 3228)

Attn: Docketing & Service Branch

Dear Sirs:

This letter is in response to the notice in the Federal Register, dated January 21, 1982. The text referred to the "Revised Training and Experience Criteria for Nuclear Medicine Physicians" of the Nuclear Regulatory Commission and a draft proposal for appendix A "Acceptable Training & Experience for Medical Uses of Byproduct Material".

As the chairman of the Residency Program Committee in Radiology and Nuclear Medicine at a 600-bed general osteopathic medical hospital, I wish to support the requirement for an integrated six month training program for resident physicians in an accredited Nuclear Medicine or Nuclear Cardiology curriculum. The scope of current Nuclear Medicine and Nuclear Cardiology today requires a six month training program for the safe and efficacious use of byproduct material. Furthermore, I suggest an 18-month grace period after adoption of the new regulations until the six-month training period is a requirement.

Further comments regarding Appendix A are as follows:

On Page-3, IX, Training For Physicians wishing to use SR-90 I applicators only, A Evidence of certification by the American Board of Radiology and Radiology or Therapeutic Radiology, or

To this section A should be added "or American Osteopathic Board of Radiology and Radiation Oncology.

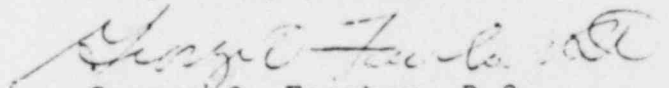
Under Table I, "Acceptance of Medical Specialty Board Certification" I support the inclusion of American Osteopathic Board of Radiology Certification in Radiation Oncology for groups V & VI and the American Osteopathic Board of Radiology in Diagnostic Radiology and Radiology for groups I-III.

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Add:
J. Delmedico

Under Table III "Training for Therapy Procedures Involving Sealed Sources (group VI)" Section C - Clinical training in Group VI procedures, I suggest the addition of the following phrase: or the committee on post-doctoral training of the American Osteopathic Association to the current paragraph. Since the acceptance of the certificates of the American Osteopathic Board of Radiology is proposed, it would be appropriate that the accrediting agency for these certificates namely, the "Committee on Post-Doctoral Training of the American Osteopathic Association" be cited in reference for the formal training programs of the American Osteopathic Board of Radiology.

I appreciate the opportunity to comment on the notice of proposed training and experience in the Federal Register of January 21, 1982.

Very truly yours,


George O. Faerber, D.O.
Chief, Section of Nuclear
Medicine
Chairman of Residency Program
Committee

cc: John Perrin D.O.
499 South Capitol Street S.W.
Suite 104
Washington, D.C. 20003

GOF/dl



THE UNIVERSITY OF ROCHESTER
MEDICAL CENTER

SCHOOL OF MEDICINE AND DENTISTRY * SCHOOL OF NURSING
STRONG MEMORIAL HOSPITAL

601 ELMWOOD AVENUE
ROCHESTER, NEW YORK 14642
AREA CODE 716

emp

March 5, 1982

143

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Docketing and Service Branch

DOCKET NUMBER
PROPOSED RULE
PR-Misc. Notice
(47 FR 3228)

Dear Sirs:

I am in receipt of a copy of the Federal Register (47:15), Friday, January 22, 1982, dealing with the proposed training and experience criteria for nuclear medicine physicians, including nuclear cardiologists. Although I am a Past-President of the American College of Nuclear Physicians and am currently a member of the American Board of Nuclear Medicine, and a guest examiner in nuclear radiology for the American Board of Radiology, I wish to add my comments as those of a concerned individual involved in the daily practice and teaching of nuclear medicine.

First, I would heartily endorse these proposed changes in the regulations. This revision is long over due. Initially, I greatly supported the concept of a minimum of a one-year training period and I still feel that would be more acceptable to me as an individual than six months. However, if this is the best compromise to be worked out, as the consensus, I will live with it. Since the current criteria was established, the practice of nuclear medicine has significantly increased in the number of procedures, patient applications and, most importantly, in the complexity of procedures. Newer nuclear medicine procedures involve usage of advanced technical equipment such as scintillation detectors and computers. The interpreting physician must understand the basics of nuclear decay and statistics, as well as have knowledge of the interaction of radiation with the detectors, conversion of that interaction to data representing count rate activities, and the manipulation and sorting of this count rate data by computers. Lack of knowledge of the interaction of these sophisticated, technical devices may lead to misinterpretation and consequently, mistakes in medical management of patients.

Secondly, nuclear physicians dealing with nuclear medicine procedures must have extensive experience in integrating other knowledge of the patient's condition and prior evaluations into the decision-making process which begins with whether the nuclear medicine exam should be done or not, and then through the application of the results of the nuclear medicine exam into the current status of the patient including history and physical exam, other laboratory tests and radiological procedures, so that a true and reliable decision may be made involving medical management of the patient. The newer procedures in

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s/o
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S. Delmedico

Secretary of the Commission

March 5, 1982

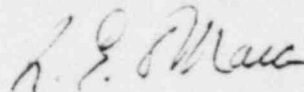
nuclear medicine frequently utilize greater isotope amounts than older procedures. Frequently, because of development in isotopes and radiopharmaceuticals, the radiation dose to the patient is considerably less than prior radioisotope procedures or other radiographic procedures, but also results in an increased complexity of radiation safety practices for personnel and other patients.

Such knowledge can only be gained through a period of intensive education and experience in the basic principles of the application of radioisotopes to medical problems. I feel six months of training is, at best, a basic minimum but believe the ultimate revisions proposed by the document cited above, will be in the best interest of both the public and the profession.

I must note one fault with the document cited above. This pertains to the designation of "Nuclear Medicine and Nuclear Cardiology." While I recognize the prior concerns of the Commission in regard to cardiovascular nuclear medicine procedures, such a statement causes the Commission to assert itself into the problems of medical practice rather than deal with the radiation safety of patients and public, as is the main purpose of this proposed revision. If the Commission desires to truly single out "Nuclear Cardiology -- Cardiovascular Nuclear Medicine," is the Commission prepared to deal with requests for other side branches of nuclear medicine practice such as pediatric nuclear medicine, orthopaedic nuclear medicine, urological nuclear medicine, pulmonary nuclear medicine, gastroenterological nuclear medicine, and the like.

Thank you for the opportunity to comment on the proposed change in training and experience criteria. If I can be of any further assistance, please do not hesitate to contact me.

Sincerely yours,



Robert E. O'Mara, M.D.
Professor of Radiology
Chief, Division of Nuclear Medicine

ROM:vck

March 5, 1982

Secretary of the Commission
U. S. Nuclear Regulatory Commission
1717 H Street, NW
Washington, DC 20555

Attention: Docketing and Service Branch
Reference: 47 FR 3228-3231, FR Doc. 82-1616

Dear Sir:

The Society of Nuclear Medicine supports strongly the proposed revised training and experience criteria for nuclear medicine physicians, including nuclear cardiologists, as published in the above-mentioned docket. Although we view these proposed criteria as being the minimal which are required in view of the ever-increasing complexity of the procedures involved, we realize that some change in training and experience requirements must be imposed as rapidly as possible.

It should be noted that the majority of nuclear medicine studies, including cardiovascular nuclear medicine examinations, usually make use of the largest single radionuclidic source employed in nuclear medicine, a molybdenum-99 -- technetium-99m generator. In addition, the instrumentation used in such studies is of the highest sophistication commonly found in nuclear medicine practice. Each of these facts would indicate that the training and experience of practitioners engaged in this discipline should be increased.

In addition, the proposed criteria would not affect physicians who are currently authorized to perform these procedures, nor would it impact on physicians who are presently enrolled in nuclear medicine training programs under the existing training and experience guidelines. Furthermore, even a cursory examination of the program content of the annual meetings of the Society of Nuclear Medicine over the past several years reveals that a steadily-increasing and substantial portion of these scientific meetings has been devoted to cardiovascular nuclear medicine. This serves notice of the importance with which the Society views the need for additional training in this facet of nuclear medicine practice.

The Society feels that the implementation of these proposed revised criteria should be as early as practicable. The date of implementation should take into account those physicians who are already enrolled in formal residency

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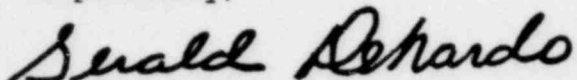
Misc. Notice
(47 FR 3228)

Secretary of the Commission
March 5, 1982
Page 2

programs under the current criteria to avoid the imposition of hardships on those physicians or the training programs which have accepted them under guidelines. In addition, consideration should be given to combining the requirements in Table 2, Sections B and C, in a manner which would state the overall requirement of 1000 hours for these two Sections, while allowing some latitude to program directors in the fulfillment of these requirements.

The Society appreciates the opportunity to comment on these proposed revised criteria and will be happy to assist the Commission in any way possible in their implementation.

Respectfully,

A handwritten signature in cursive script, reading "Gerald DeNardo".

Gerald L. DeNardo, M.D.
President

GLD:mav

College of Physicians & Surgeons of Columbia University | New York, N.Y. 10032

DEPARTMENT OF RADIOLOGY

630 West 168th Street

'82 M - 3 19:55

emp

March 4, 1982

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Attention: Docketing and Service Branch

Dear Sir:

I am writing you to support all proposals in the Federal Register, Volume 47, Number 15, January 22, 1982 concerning the draft revision of training and experience criteria for physicians requesting authorization to use reactor produced radioactive isotopes (by product material) for diagnostic nuclear medicine procedures, including nuclear cardiology.

My personal experience with the large number of visiting scientists who came to the Berkeley Lawrence Laboratory and spent anywhere from 1 month to 2 years in the Nuclear Medicine training program clearly indicates that a minimum of six months of training in the use of radionuclides is necessary to attain a level of acceptable competence.

I again urge you to adopt the recommendation of the advisory committee of the NRC.

Thank you.

Sincerely,

Rashid Fawwaz

Rashid Fawwaz, M.D., Ph.D.
Associate Professor of
Radiology

RF/ek

cc: Mitch Stroner

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ADD:
J. Delmedico



DOCKET NUMBER
PROPOSED RULE PR-Misc. Notice
(47 FR 3228)

136



emp

February 26, 1982

137

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

DOCKET NUMBER
PROPOSED RULE
PR-Misc. Notice
C47 FR 3228

Attention: Docketing and Service Branch

Dear Sir:

I would like to comment on the proposed revision of the training and experience criteria for physicians requesting authorization to use reactive produced radioisotopes for diagnostic procedures. As Medical Director of a multispecialty clinic we have had the occasion to recruit cardiologists recently out of training. Many of these new physicians have requested privileges to perform nuclear cardiology.

As Director of the Nuclear Medicine Laboratory it has become apparent that these physicians have not received adequate training in the handling of radiopharmaceuticals or the appropriate use of the instrumentation needed. They, in fact, do not even realize their weaknesses in these different areas. I strongly support the proposed revision to increase the length of training needed to obtain authorization from the Nuclear Regulatory Commission. In fact, it is somewhat doubtful that even a six-month program would give the adequate background information needed to safely and appropriately use the current radiopharmaceuticals available and others that may be developed.

Sincerely,

Richard L. Littenberg, M.D.
Medical Director

RLL:bam

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ADD:
S. DeMedico

- Dermatology
Kim S. Goh, M.D.
- Family Medicine
Clifford T. Druceker, M.D.
David B. McEwan, M.D.
Patrick J. Walsh, M.D.
- General Surgery
J. Brysson Greenwell, Jr., M.D.
Peter Halford, M.D.
- Internal Medicine
Cardiology
Vincent E. Friedewald, Jr., M.D.
Stephen H. Kliman, M.D.
Alfred D. Morris, M.D.
- Gastroenterology
George N. Lewis, M.D.
- General Internal Medicine
Charman J. Akina, M.D.
Anne P. Brennan, M.D.
Unoji Goto, M.D.
Scott T. Himeda, M.D.
Elmer C. Johnson, M.D.
Richard L. Littenberg, M.D.
Niranjana Rajdev, M.D.
- Industrial Medicine
Anne P. Brennan, M.D.
Niranjana Rajdev, M.D.
- Nuclear Medicine
Richard L. Littenberg, M.D.
- Oncology/Hematology
Elmer C. Johnson, M.D.
Niranjana Rajdev, M.D.
Robert W. Wilkinson, M.D.
- Pulmonology
Roy S. Adaniya, M.D.
John P. Cailan, M.D.
- Ultrasound
Vincent E. Friedewald, Jr., M.D.
- Laboratory
James D. Gallup, M.D.
- Neurological Surgery
Juris Bergmanis, M.D.
- Neurology
Anthony J. Mauro, M.D.
- Obstetrics and Gynecology
Ken A. Nakasone, M.D.
Clarence A. Wyatt, Jr., M.D.
- Ophthalmology
Jerome L. Tucker, M.D.
Wayne R. Wilson, M.D.
- Orthopedics/Sports Medicine
Kent Davenport, M.D.
Gary L. Douglas, M.D.
Thomas C. Owens, M.D.
John S. Smith, M.D.
Robert L. Smith, M.D.
- Otolaryngology
Kenneth Y.C. Chun, M.D.
R. Bruce Joseph, M.D.
Ronald P. Peroff, M.D.
- Pediatrics
D. Venu Reddy, M.D.
Vijaya Reddy, M.D.
Robert W. Wilkinson, M.D.
- Pediatric Cardiology
D. Venu Reddy, M.D.
- Plastic & Reconstructive Surgery
Victor Hay-Roe, M.D.
Katsuji Kubo, M.D.
- Psychiatry
John P. Clarkin, M.D.
Harry K. Davis, M.D.
- Radiology
William Y. Buchanan, Jr., M.D.
- Thoracic & Cardiovascular Surgery
Michael H. Dang, M.D.
- Urology
James H. Stewart, M.D.
- Executive Director
Robert A. Payne

Mercy Hospital

4001 J STREET
SACRAMENTO, CALIFORNIA 95819

(916) 453-4545

March 4, 1982

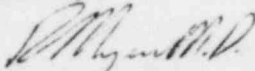
Secretary of the Commission
US Nuclear Regulatory Commission
Washington D.C. 20555

ATTN: Docketing and Service Branch

Dear Sir:

I would like to take this opportunity to advise of my strong support of the recent recommendations published in the Federal Register on January 22, 1982 concerning revised training and experience criteria for Nuclear Medicine Physicians. The efforts of many of us in Nuclear Medicine to provide high quality care while minimizing risks to the patient and the environment will be considerably aided by these new regulations.

Sincerely,



Richard W. Myers, M.D.
Director, Department of
Nuclear Medicine
Mercy Hospital of Sacramento

RWM:jg

DOCKET NUMBER
PROPOSED RULE

PR - Misc. Notice
(47 FR 3228)

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ADD:

J. DeMedico





THE SOCIETY OF NUCLEAR MEDICINE

NORTHERN CALIFORNIA CHAPTER

emp

March 3, 1982

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

DOCKET NUMBER **PR-139**
PROPOSED RULE **Misc. Notice**
(4) FR 3228)

Dear Sirs:

I am writing to you as the President of Technologist Section, Northern California Chapter, in reference to Revised Training and Experience Criteria for Nuclear Medicine Physicians. In California the minimum training is already six months. I believe this reflects our concern for better patient care and responsibility in the practice of Nuclear Medicine. Therefore I am strongly in support of the revision increases proposed for minimum acceptable training and experience.

Sincerely,

Arleen E. O'Brien

Arleen E. O'Brien, CNMT
President Technologist Section
Northern California Chapter
The Society of Nuclear Medicine
4458 Meadowlark Drive
Napa, Calif. 94558

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Add:

J. De/madico





DIAGNOSTIC IMAGING
ULTRASOUND & NUCLEAR MEDICINE INC. P.S.

524 MEDICAL DENTAL BUILDING
509 OLIVE WAY
SEATTLE, WASHINGTON 98101

4 March 82

Secretary, U.S. Regulatory Commission
Attn Docketing and Service Branch
Washington, D.C. 20555

emp

(140)

Re Training and experience criteria for nuclear physicians.

Dear Sirs:

DOCKET NUMBER
PROPOSED RULE PR-Misc. Note
(47 FR 3228)

We in the Northwest Chapter of The Society of Nuclear Medicine support the proposals for increased minimal training requirements for nuclear physicians regardless of their subspecialty interest which is proposed in the Federal Register, Vol 47 Nr 15, 22Jan82. Six months training is minimal. We would favor making the minimal training period one year, but are willing to compromise at this time for a 6 months minimal training requirement for any physicians who use radionuclides in diagnosis or treatment.

Please feel free to contact us further if more information is needed.

Sincerely yours,

Frank H. Allen, M.D.

Frank H. Allen, M.D.
Pacific Northwest Chapter President
Society of Nuclear Medicine

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ADD:
J. DeMedico





THE UNIVERSITY OF NORTH CAROLINA
AT
CHAPEL HILL

The School of Medicine
Department of Radiology



emp
Division of Imaging
Second Floor
The North Carolina Memorial Hospital
Chapel Hill, North Carolina 27514

5 March 1982

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

DOCKET NUMBER
PROPOSED RULE **PR-Misc. Notice**
(47 FR 3228)

Attn: Docketing and Service Branch

Gentlemen:

I am in support of increasing the training and experience criteria for nuclear medicine physicians to six months for limited licensure as outlined in the Federal Register, Volume 47, No. 15, Friday, January 22, 1982, but consider it minimal at best.

Currently, there is no objective testing with the present or proposed requirements. Qualification is by preceptor statement only. There is a tendency for the preceptor to err in a way beneficial to the candidate in filling out forms regarding training experience perhaps because of amiability built up during the training period and/or a desire to avoid animosity if the forms do not indicate fulfillment of the basic criteria. This should not happen, but does.

Many, even large, training institutions could offer a one year training course, but do not have sufficient faculty resources to offer a six month training course because of their established commitments in the training of radiology residents, nuclear medicine fellows, radiology and nuclear medicine technology students.

Cardiovascular nuclear medicine studies require specific knowledge and expertise which the cardiologists tend to feel they have an exclusive option on and do involve some risk, albeit statistically small, to patients with severe cardiovascular disease who are being exercised. However, proper performance of the radionuclide ventriculographic studies with Tc-99m labeled RBC's requires both knowledge of the technical aspects of injection techniques, ECG gating devices, gamma

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J. DB/medico

camera performance and usage, computer acquisition and analysis software, and knowledge of cardiovascular physiology, pathophysiology, ECG interpretation, basic and advanced cardiac life support and usage of ergometric equipment. It would seem that individuals who have sufficient expertise in all of these areas are few in number, and that those institutions which do not have these individuals have resorted to cooperative efforts between the isotopic licensees and the cardiologists. Given sufficient time, those individuals who are truly interested in the techniques will learn what they need to know to do a good job safely and correctly, and will not be overly concerned about a short cram course lasting three to six months, which only establishes that they met the minimal criteria for licensure in order that they appear more attractive to groups they are applying for employment with or to increase their personal income. Those individuals who want only to add a brightly colored new feather to their cap or to greatly enhance their personal income are often the persons who do the most harm to a professional group, and, in the case in point, could very well endanger individual citizens if the isotopic handling techniques are faulty.

It would seem that the best single choice of an individual for performance of radionuclide ventriculography, radionuclide angiography, cardiac blood pool imaging, or myocardial perfusion imaging is the fully trained nuclear medicine physician, and, if he feels he needs help with monitoring the exercise aspects of the studies, then he should arrange for assistance from an individual who is competent in that area. Nuclear medicine physicians are quite used to gathering a considerable amount of clinical information about their patients in order to make a more meaningful interpretation of the results of the study.

Many subspecialty groups who use nuclear medicine tests for their patients read the literature, see the scan findings, and become quite expert in image interpretation in that area of nuclear medicine. However, this does not mean that those individuals are knowledgeable in all areas of nuclear medicine, e.g., safe handling of all types of isotopic materials used in humans, operation of a radiopharmaceutical dispensing station, operation of scintigraphic equipment, operation of image processing computer systems, and compliance with nuclear regulatory requirements. It is for these reasons that we do not practice "nuclear orthopedics," "nuclear nephrology," "nuclear gastroenterology," etc. I ask the Commission to consider rewording the criteria to replace "nuclear cardiology" with cardiac nuclear medicine or cardiovascular nuclear medicine.

I have been in charge of a cardiovascular nuclear medicine (CVNM) section in a university radiology department for five years and have been director of the training program for cardiovascular nuclear medicine for the past three years training cardiology fellows, radiology residents and nuclear medicine fellows. Although, as a group, the cardiology fellows have been the most eager to learn the techniques, there have been a number of recurrent problems based on a lack of understanding of nuclear medicine physics, computers, radiation dosimetry and gamma camera function. The situation with the latter two areas has been aggravated by a jointly appointed attending cardio-

logist who spent two years at a neighboring institution doing radionuclide angiograms with multi-crystal cameras, who considers himself and is considered by his cardiology peers as an expert in all areas of CVNM, and who has repeatedly tried or suggested that we increase the dosage of Tc-99m Sn RBC's to 30 uCi on a routine basis for equilibrium blood pool imaging and for radionuclide angiograms, ignoring the radiation dose to the patients and the count rate losses, pulse pair resolution problems, etc. with standard gamma cameras, and who designed a protocol where these doses were to be repeated in the same patient three days in a row. This same individual would leave untrained cardiology residents in sole charge of doing patient studies until the practice was discovered and stopped.

In my experience, it takes more than six months to train an interested physician to competence in CVNM techniques. Competence in this case is defined as experience and judgment sufficient to set up and run a CVNM laboratory. The radiology residents have a more rational approach to the radiation dosimetry considerations, instrumentation technology and image interpretation, but need more confidence-building instruction regarding exercise physiologic testing and ECG interpretation; whereas the cardiology fellows are just the opposite.

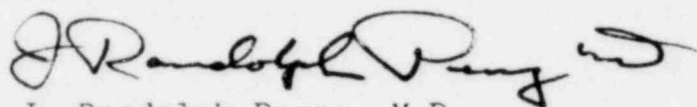
I do not think that the U.S. NRC Advisory Committee on the Medical Uses of Isotopes should assume that the proposed revised six month training and experience criteria for nuclear medicine physicians is anything more than the minimum in a very best case training situation. I think compliance with the six month criteria will yield satisfactorily trained radiologists. I think physicians coming from other speciality training programs need more than six months training for even limited licensure e.g., cardiac nuclear techniques and, in my opinion, this should be set at one year.

The Committee should also consider its position on the future usage of yet-to-be released isotopes by limited licensure individuals who may assume that since a new isotope is used for heart studies then they are entitled to use it regardless of deficits in their training and knowledge. I think the public would really be alarmed if it knew what could happen with loosely controlled and indiscriminate use of radioactive materials in human subjects and that the majority of nuclear medicine trained physicians object to loosening the proposed six months training requirements.

In general, I believe that physicians should take the responsibility for regulating physicians towards responsible behavior. In the present situation, however, there seems to be considerable pressure from two physician groups, namely The American College of Cardiologists and The American Heart Association, to inflict their will because of their vested interests in areas in which perhaps 95% of them have a negligible knowledge base, e.g., radiation biology, physics, protection, instrumentation, mathematics, and nuclear medicine instrumentation and techniques. Since

the agency which regulates the delivery of radioactive materials to qualified users has to have some criteria for defining who a qualified user is, it is therefore involved. I only hope that the NRC Commission will listen to those who are the most qualified users by training, i.e., certified by the ABNM, ABR special competency board, etc. and aid responsible, knowledgeable physicians in the SNM and ACNP to regulate themselves and provide improved training programs.

Yours truly,

A handwritten signature in dark ink, appearing to read "J. Randolph Perry, M.D.", with a stylized, cursive script.

J. Randolph Perry, M.D.
Assistant Professor
Department of Radiology
Director, Cardiovascular
Nuclear Medicine Section