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## EANM/ESR Curriculum: Statement

Dear National Delegates and Colleagues,

The Board of the German Society of Nuclear Medicine has reviewed the Multimodality Imaging Training Curriculum, Parts II and III. We would be supportive of the initiative proposed by the EANM and the ESR provided that substantial changes are made to address the following remarks, which highlight a fundamental error in the curriculum.

In this respect, it must be noted that a recommendation at European level carries no practical weight at national level. Healthcare systems are organised on a national basis and have different structures and forms of funding. European harmonisation only applies for the commercial aspects (such as drug approval, etc.) or for radiation protection (EURATOM and lower-level legislative acts).

In Germany, speciality training is organised on a federal basis. Only the German Medical Assembly (*Deutscher Ärztetag*) can make decisions regarding changes to the Speciality Training Regulations (*Weiterbildungsordnung*). In these circumstances, the change is offered to the State Chambers of Physicians (*Landesärztekammern*) by the German Medical Association (*Bundesärztekammer*) in the form of a draft of the Speciality Training Regulations. The State Chambers of Physicians act autonomously as the institutions responsible for implementing the regulations. Only the State Chambers of Physicians can make binding decisions regarding the actual arrangements for speciality training. It takes an extensive amount of time (5 - 10 years) to change the complete Speciality Training Regulations for a specialist field.

Medical training with a certificate to practise as a physician is generally mutually recognised in the EU. Whether or not speciality training or specialist designations are recognised depends on whether these conform to the speciality training requirements specific to Germany and the Chambers of Physicians.

The issue of hybrid devices is already regulated in Germany within the area of radiation protection. While the requirements for medical speciality training will remain unaffected, it has been agreed that the required exchange of expertise will take place over a timeframe of 24 months. In practical terms, this means that a nuclear medicine specialist will possess the required expertise in CT after 24 months of training by a fully licensed radiologist, while a radiologist will possess the required expertise in PET and SPECT after 24 months of training by a fully licensed nuclear medicine specialist. This additional speciality training will thus permit medical specialists in both fields to operate hybrid devices.

This provision has already been published as a recommendation of the German Radiation Protection Commission (Rö8+ N4; SSK-10-11.pdf, see attachment). These recommendations are in the process of being implemented as legislation. The Speciality Training Regulations will at that point be adapted accordingly in line with the Radiation Protection Commission requirements. As such, the adaptation process for speciality training in hybrid procedures will already have been completed in Germany and there is no additional need to develop new training curricula to address hybrid imaging.

We would like to suggest to use the German solution as an example for action at European level. The major advantage of this approach is that it does not involve encroachment into medical speciality training procedures for nuclear medicine and radiology, yet there are no restrictions to clinical use at an operational level. Whether speciality training requirements need to be incorporated into each 24-month curriculum and, if so, which of these requirements must be included, can certainly be defined concisely, making rapid implementation possible at a national level in the EU.

A number of additional detailed comments regarding the current draft are presented below:

The subsequent sections of the document (Parts II and III) list specific knowledge requirements for an appropriate level of training in multimodality imaging for those with a background in nuclear medicine or radiology (PET/CT, SPECT/CT).

Planar imaging, predominantly scintigraphy, and functional measurements using radiopharmaceuticals, form the base of nuclear medicine.

The radiologist entering the field of nuclear medicine does not need expertise in all aspects of the field to read SPECT/CT and PET/CT.

In view of the above points, the following items should be excluded:

- Functional diagnostics using only radiopharmaceuticals such as Cr-51 labelled red blood cells or iron kinetics,
- Radionuclide therapy,
- RIA/IRMA or other laboratory diagnostics,
- Thyroid function,
- Radiopharmaceutical production other than commercial kits.

For all other aspects, the radiologist needs to acquire knowledge of both planar and cross-sectional nuclear medicine imaging.

In these cases, the radiologist needs in-depth education apart from SPECT and PET.

The list of requirements given in Part II seems to be unacceptable as it includes a large number of extremely uncommon procedures.

These less common procedures include:

- Pulmonary: mucociliary clearance studies (BK)
- GI tract: liver RES scintigraphy (both dynamic and static studies) (BK)
- Urogenital tract: indirect and direct cystourethrography (BK)
- Infection/inflammation as *detailed knowledge* (DK)
  - HMPAO-labelled WBCs (DK!)
  - Indium-labelled WBCs (DK!)
  - Gallium citrate (DK!)
  - Pentavalent DMSA (DK!)

Meanwhile, the requirement of radiobiology in diagnostic radiology (Part III: A. Required general training in Radiology) appears to make no sense and should in any case have been met without exception by nuclear medicine specialists:

- b. Radiobiology (BK),
- g. Cell biology, DNA, RNA, and cell activity (BK).
- i. ... knowledge of detector composition ... crystal(?) physics ...
- j. Basic understanding of computer science (Boolean algebra?) ... and teleradiology (BK) (permitted only in very special circumstances in Germany)
- k. Clinical application and study protocols, to include: an understanding of patient preparation for PET/CT examinations, venous access ...
- l. ... effects on thyroid function tests ... (more important is the effect on thyroid function)

The radiologist should acquire skills in the reading of nuclear medicine procedures, including the indications for and handling of radiopharmaceuticals. We take the view that the radiologist is not involved in the production of radiopharmaceuticals (except for reconstitution) and that, as such, the she/he does not require an understanding of cyclotrons and reactors as explained in the paragraph "Production and properties of radionuclides (BK)" (Part II, A. Required general training in nuclear medicine).

The same paragraph (penultimate line) indicates that additional knowledge about nuclide production in generators is not necessary, stating that: "practical issues ... to produce radionuclides" [are required].

Finally, we recommend that the requirements for both the nuclear medicine specialist and the radiologist (as mentioned in Parts II and III) be presented in table format in order to provide a rapid overview and to check for a well-balanced ratio of requirements for both specialisations.

In conclusion, the German Society of Nuclear Medicine does not see the content and structure of the curriculum as appropriate, as it is not about redefining basic structures for medical specialists. There is one specific problem though, namely the operation of hybrid devices. One possible solution has become established in Germany. Therefore, there is no need to develop new curricula in this case either. Whether a 'common trunk' is a good idea, or whether the differentiation and structure of expertise should be maintained or whether nuclear medicine is a sub-specialism of radiology (see the ESR curriculum) are surely questions which are best answered at national level. In these circumstances, European requirements are of no help as there has to date been no European harmonisation of the healthcare system. As such, the German Society of Nuclear Medicine will willingly support EANM initiatives with its expertise and experience. However, drafts issued by the EANM, particularly in the area of speciality training, are not binding.

Best regards



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