

# The first Polish Department of Nuclear Medicine with European Accreditation

Last year the Nuclear Medicine Department of the Military Institute of Medicine (MIM) in Warsaw, Poland was awarded the European Union of Medical Specialist/European Board of Nuclear Medicine (UEMS/EBNM) Accreditation. The diploma was presented to the Head of the Department, Professor Eugeniusz Dziuk MD PhD, during a special session that was held in Vienna during the Annual Congress of the European Association of Nuclear Medicine (9–13 Oct 2010).

The abovementioned department is the first in Poland to receive this European accreditation. Until now there have only been 30 Nuclear Medicine Departments and 45 Nuclear Medicine Training Centres which have fulfilled the strict criteria to receive UEMS/EBNM Accreditation.

The Nuclear Medicine Department MIM was founded in 1963. Since 1983 it has been headed by Prof. Eugeniusz Dziuk.

The Department of Nuclear Medicine is a diagnostic facility of the Central Teaching Hospital Ministry of Defence, Military Institute of Medicine in Warsaw and has the Certificate of Quality Management System ISO PN-EN ISO 9001:2001 and AQAP 2120:2003 certificate of the National Institution in NATO. It has been awarded the validation of the Mayo Cardiac Phantom, confirming that the system in the Nuclear Medicine Department MIM is acceptable for the multi-centre trial SPECT study and Pearl of Medicine Award certificate in Poland.

The Department consists of a Scintigraphy Laboratory and a Radioimmunology Laboratory. There are three nuclear medicine

specialist, two residents, a physicist and IT specialist, a biologist, a radiation protection adviser, NM technicians, specialized nurses, and supportive and administrative personnel.

The Scintigraphic Laboratory is equipped with the most up-to-date diagnostic equipment including, among other things, two-head rotary gamma cameras coupled with computed tomography (SPECT/CT hybrids), a Technegas generator, and an automatic radionuclide dosage system. The installed computer network enables the transferral of images using telemedicine, and adequate data processing systems make it possible to superimpose images obtained by different techniques. Approximately 3200-3400 scintigraphic studies are performed each year.

A list of in vivo investigations performed in the department, in order of descending frequency is as follows: 1. Bone scan: planar, dynamic study, SPECT, SPECT-CT, "bone evolution"; 2. Myocardial perfusion, stress, and rest test with  $^{99m}\text{Tc}$ -MIBI, gated SPECT; 3. Whole-body scan with  $^{131}\text{I}$  after hyperthyroid therapy and treatment of thyroid cancer with  $^{131}\text{I}$ ; 4. Thyroid scan with  $^{99m}\text{Tc}$  and  $^{131}\text{I}$ ; 5. Renal scan (static and dynamic); 6. Lung perfusion scan (planar, SPECT); 7. Lung ventilation scan with "Technegas"; 8. Somatostatin Receptor Scintigraphy with SPECT/CT system; 9. Lymphoscintigraphy for sentinel node mapping with hybrid SPECT/CT system; 10. Parathyroid scan (dual-isotope subtraction technique); 11. Radioisotope cisternography; 12. Brain SPECT; 13. Whole body scan with Lu-117, SM-153 and Y-90; 14. Liver/Spleen



**Figure 1.** The representatives of the Committee for Accreditation on Nuclear Medicine Department CANMD and Accredited Departments. Prof. Eugeniusz Dziuk is first on the right.



**Figure 2.** UEMS/EBNM European Accreditation Diploma.

scan ;15. Cardiac MUGA study; 16. Dacryoscintigraphy and occasionally inflammation scintigraphy, and others.

The Radioimmunological Laboratory performs *in vitro* measurements of endocrinological and oncological analytes. In the laboratory the radioimmunological investigations, immunometric, and other immunochemical methods are applied. The following studies are done routinely:

1. Thyrological analytes: TSH, FT3, FT4, antithyroglobulin, and antithyroperoxidase autoantibodies, autoantibodies against TSH receptor;
2. Tumour markers: CEA, AFP, CA 19-9, CA 15-3, HCG, NSE, Cyfra 21-1, chromogranin A, calcitonin, thyroglobulin;
3. Vitamins: vit. B12, folate acid, vit. D
4. Other endocrinological analytes: 17 OH progesteron, androstenedion, testosterone, DHEAS, PTH, HGH, IGF1, ACTH, active renin, aldosterone, insulin, C-peptide, procalcitonin

The results are constantly subjected to internal and external laboratory audits by international institutions.

The Department of Nuclear Medicine cooperates closely with the Department of Endocrinology and Isotope Therapy (located in the same building) and carries out diagnostic scintigraphic examinations, mainly in patients treated with radionuclides. Moreover, the Laboratory cooperates with the remaining departments of the Military Institute of Health Services and with the Mazovian PET-CT Centre located in the same area.

In 1997 the Task Group for the Accreditation of Nuclear Medicine Facilities was established on behalf of the EANM (European Association of Nuclear Medicine) and the UEMS/EBNM (European Union of Medical Specialist/European Board of Nuclear Medicine) to implement the introduction of an accreditation system in Europe. The approach that has been adopted and was agreed to by both the EANM and UEMS/EBNM is intended to enhance the average quality of nuclear medicine services within Europe and is based on three separate items: 1. A quality system which is externally verified; 2. Qualified staffing; and 3. The use of accepted nuclear medicine protocols

The general philosophy adopted by the Task Group for the Accreditation of Nuclear Medicine facilities has been to develop a minimum basis for accreditation, with as much flexibility as possible to take into account the lack of harmonization that exists in Europe at present. It is intended that accreditation will be a dynamic process capable of incorporating new features as these become available, with progressive harmonization of regulations and qualifications within Europe.

The development of the Quality Manual was completed at the end of 1998. During 1999 a pilot study to prepare a department for certification under ISO 9002/94 was undertaken in St. Etienne, France under the direction of Dr. Eric Gremillet.

In 2000 a pilot study was started and continued in 2001 with the aim of preparing nine European departments for certification with respect to ISO 9001:2000. This study focused on cardiovascular nuclear medicine.

The participants were: I. Carrió, Barcelona, Spain; P. Franken, Brussels, Belgium; R. Giubbini, Brescia, Italy; E. Gremillet, St. Etienne, France; O. Lang, Prague, Czech Republic; J. Mueller, Basle, Switzerland; O. Schober, Muenster, Germany; M. Schwaiger, Munich, Germany; and R. Underwood, United Kingdom.

The Task Group became a permanent UEMS/EBNM Committee under the name of CANMD — Committee for the Accreditation of Nuclear Medicine Departments — in 2004.

The current UEMS/EANM Committee for the Accreditation of Nuclear Medicine Departments includes: P. Van Boxem (Belgium) — Chair, A. García-Burillo (Spain), A.J. Hilson (United Kingdom), S. Mirzaei (Austria), N. Mutlukoca (Norway), G.C. Vivian (United Kingdom), E. Zerbib (France), and M. Bajc (Sweden)

Major achievements of the Committee:

- publication of a downloadable tool for ISO certification in 2006;
- creation of a list of corresponding members;
- cooperation with IAEA in the area of self-appraisal auditing in nuclear medicine;
- cooperation with ALPES in the area of safety and security of isotope transportation;
- cooperation with STUK regarding the creation of guidelines on clinical auditing in the field of radiology for the European Commission;
- numerous publications on important topics for nuclear medicine (97/43/Euratom, Clinical Auditing, etc.) during lunch sessions of the EANM congresses;
- accredited department satisfaction survey;
- software user satisfaction survey;
- accreditation of more than 60 nuclear medicine departments.

The introduction of accreditation of Nuclear Medicine facilities could have the following benefits:

- it would be initiated by the profession before being imposed by an outside body with little or no understanding of the specialty;
- it would increase the quality of nuclear medicine facilities across Europe, which would have the added benefit of increasing public awareness and the credibility of the specialty, and improved patient referrals;
- accreditation could be used as part of the process of recognition of centres for teaching in nuclear medicine (physicians, radiopharmacists, physicists, technologists, etc.) by EANM and UEMS;
- accredited departments could have an added advantage with reimbursement discussions with third parties and also tendering for the provision of services;
- it would assist in better departmental risk management, even when the technical standard is already high, because of better quality documentation.

Efficiency and therefore cost effectiveness should be an additional benefit.

European Accreditation is the basis for the Implementation of Council Directive 97/43 EURATOM via the ISO standards or the IAEA process. With the accreditation of your Nuclear Medicine Department you can stay in touch with the CANMD, which is also very active in the application of Clinical Audits as required by the Council Directive 97/43 EURATOM.

Detailed information can be found on the web page UEMS/EBNM/Committees /Accr. of NM Departments/ e-mail: office@uems.eanm.org

This article is based on information received from the accredited department and from the UEMS/EBNM web page at: www.eanm.org.

Editors