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### Radiological Training in Estonia: European Charter Brings Change

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**The majority of physicians working in Estonia are graduates from the Faculty of Medicine at the University of Tartu. Until the mid-1970s, it was necessary to complete a full six years of studies in order to be an authorised medical practitioner. Following this training, a few postgraduates were then eligible to receive short intensive specialised training in Tartu University Hospital or in leading medical centres of the former Soviet Union, to become radiologists.**

Since 1970, postgraduate training has been given more emphasis. At first, one year of general medical postgraduate training (internship) was introduced, which could be followed by up to one year of specialised medical training, for example in radiology. It was still possible to gain practical experience by working under the supervision of a skilled senior radiologist after a six-month specialised course, rather than through systematic training.

#### How has Training Evolved?

This system was felt to be highly unsatisfactory and in the mid-1990s, postgraduate radiology training was extended to two years. Since 1995, in order to become a medical specialist, obligatory postgraduate medical training (residency) was introduced by law in Estonia. Since 2003, because of the reformed curriculum for undergraduate studies, it is possible to enter residency training directly after six years of studies in the University of Tartu. However, these days the duration of radiology residency in Estonia is still for four years. The adjustment of our radiology training programme with the European Training Charter for Clinical Radiology is in progress and we are building up to full compliance with the ideal five-year radiology residency by 2008.

The integrated radiology residency training programme is carried out in the best facilities in Estonia under the supervision of the top specialists in the profession. The residency is based at major teaching hospitals in Tartu and Tallinn such as Tartu University Hospital, the North Estonia Medical Centre, the East Tallinn Central Hospital, the West Tallinn Central Hospital, Tallinn Diagnostic Centre and Tallinn Children's Hospital. Tartu University Hospital and the North Estonia Medical Centre are tertiary referral and trauma centres.

In addition to developing practical professional skills and experience while performing procedures and investigations, the residents have to participate in theoretical courses, conferences, and clinical rounds and educate themselves with the help of scientific literature. There are no tuition fees for residents during the residency. Residents are paid monthly salaries of about 13,000 Estonian kroons (approx 800 Euro) according to contracts signed with hospitals for their training period.

The compulsory training duration is 32 hours per week (including lectures, seminars, other training events and being on duty and/or on call), but devoted trainees do not count work hours minute by minute. If residents of the 2nd training year and/or older perform radiological work, additionally to their 32 hours per week, as assistant radiologists they may get paid fairly generous additional financial compensation for these duties.

#### National Organisations

In Estonia, the Ministry of Education and Research provides financial means for education for the number of specialists ordered by the Ministry of Social Affairs. The total number of state-funded residency places and their allocation per specialty is established in the national residency places commissioning agreement. The Council of the University of Tartu approves the maximum number of residency applicants per year to be accepted for radiology training, as well as other specialties. The number of residents is determined by considering propositions of the Faculty of

Medicine in common with recommendations by the Estonian Society of Radiology according to prospective national healthcare strategies and social demand. In recent years, an average number of seven radiology residents are accepted every year.

#### **Performance Assessment in Residents**

A regular dialogue between trainer and trainee is significant in order to monitor progress and to mend any weak points that may manifest. For that purpose an assessment process is instituted during the clinical radiological training programme. Written assessments of the residents are completed by trainers at the end of each rotation cycle. Evaluation is based upon the resident's performance in achieving stated objectives in the general competencies like medical knowledge, patient care, professionalism, interpersonal and communication skills, and systems-based practice.

Residents are responsible for maintaining an electronic procedure logbook for all clinical radiological activities such as the number of clinical examinations performed by the resident and are a permanent part of the resident's record. A written computer-based exam is required of first year residents, and for third and four year residents, an oral examination.

#### **Management and Administration Training**

Responsible administration and management, balanced workflow and appropriate technical support are very important requisites for a smoothly functioning department.

Regrettably, the current radiology residents' training programme in Estonia is too short to disseminate sufficient knowledge of the principles of administration and management applied to a clinical department with multi-disciplinary staff and high-cost equipment.

During four years of residency, the emphasis is on obtaining core knowledge of diagnostic radiology. In the near future, five-year training is going to be introduced. With that, there will also be more time for management training.

#### **Resident Workloads**

The radiology residency in Estonia offers strong academic training in general diagnostic radiology. In the four-year curriculum, in the first year the resident's time is distributed in those areas in which she or he must become acquainted to become competent in basic radiology skills. These four to eight week rotations include introduction to chest, gastrointestinal, urogenital, emergency and musculoskeletal radiology, nuclear medicine, ultrasound, computed tomography (CT), vascular and interventional radiology, and MRI.

In the first year of training residents also acquire the necessary knowledge of the basic sciences such as the physical basis of image formation in all imaging modalities, picture archiving computer systems (PACS), radiology and hospital information systems (RIS, HIS), quality control, radiation protection, radiation physics, radiation biology, anatomy, physiology, the pharmacology and application of contrast media. Didactic lectures, seminars and case conferences help the new resident assimilate the large volume of new material. From the first year of training, residents participate twice a month in calls with an experienced radiologist.

In the second and third years of training, the resident will spend one or two additional months in each area each year including mammography, paediatric radiology, neuroradiology and all the other organ-based rotations. During the second and third years the resident will progressively move closer to the goal of being able to work unaided, an ability expected of all the fourth year residents.

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