Medical Physicists in Macedonia

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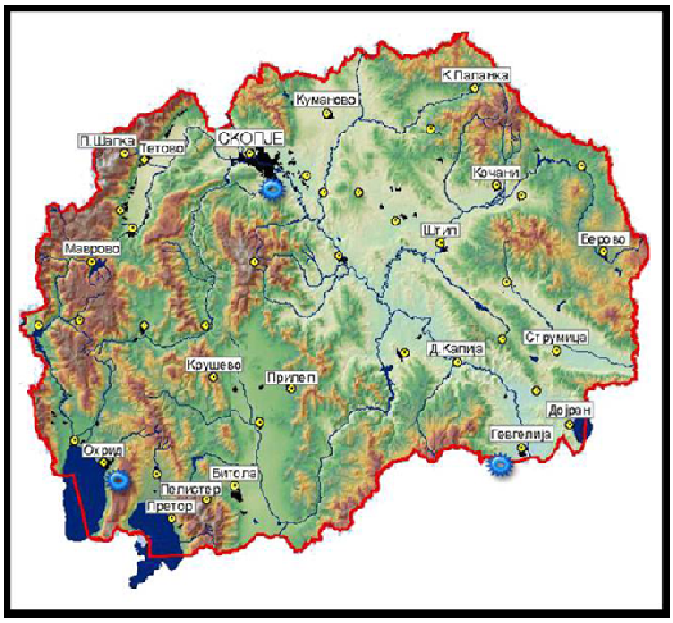
Republic of Macedonia encompasses an area of app. 25.600 km^2, with a population of 2 millions.



Routine application of radioisotopes in patients started in 1958. In the same year laboratory for radioisotopes was founded at the Institute of pathophysiology and nuclear medicine as a part of Medical faculty, University of “Ss. Cyril and Methodius” Skopje. The need for medical physicist working in hospital exists since the beginning of use of radiopharmaceuticals. With the first gamma camera in 1973, nuclear medicine became unavoidable part of solving many clinical problems, often with great enthusiasm, mirroring the interdisciplinary character of the Institute. In 1983, nuclear medicine department in Bitola was opened. First private nuclear medicine department was opened in 2010. As a part of nuclear medicine team only three medical physicists are working in nuclear medicine departments in Macedonia. Two of medical physicists who are working in nuclear medicine department in Skopje are specialists of nuclear medicine physics, (one of them with Master Science degree and at present PhD student). Currently 6 gamma cameras are in use, one planar, two single head SPECT and three double head SPECT. There are no facilities for PET imaging yet.

The medical nuclear physicist in nuclear medicine department is responsible for overseeing the quality assurance. Since 2001 a Radiation Safety Directorate is established in Republic of Macedonia. There are four physicist employed, two of them for Master of Science degree program associated with the highly complex equipment to ensure optimum equipment performance and image quality. The role of physicist is to perform acceptance testing of new imaging equipment, annual performance evaluations of existing equipment and to review routine, daily QA testing carried out by the technologists.

There is a Radiotherapy unit where six medical physicists are employed at the same University, Medical Faculty, Clinical Center. All of them are specialists in nuclear medicine physics. Presently Radiotherapy unit is equipped by two "Varian" linear accelerators for external radiotherapy. Classical CT simulator, Ortovoltage unit, HDR brachytherapy and TPSs for external and brachytherapy dosimetry. The role of medical physicists in radiotherapy is well established and it is clear that they are responsible for all the technical aspects concerning the production and use of ionizing radiation to ensure patient and personal safety. They also, take active part in treatment planning.

Radiology department is equipped with three CT scanners, NMR, Mammography and conventional Roentgen units. This moment only one electro technical engineer is employed in this department.

A Radiation Safety Directorate is established in Republic of Macedonia as a governmental body. There are four physicist employed and two of them have Master of Science degree.

General education is the most important aspect of a medical physicist's training. The majority of medical physicist entered the field have completed a degree in physics and most of them have been trained on-the-job, or through training fellowship program, short courses and workshops organized by the IAEA, EANM, ESTRO and ESMP.

There is a specialization of nuclear medicine physics at the Medical faculty. Training consists of three years residency. At the Faculty of Natural Science and Mathematics, Institute of physics started with organizing postgraduate studies of medical physics few years ago.

In spite of important role and responsibilities of medical physicist in nuclear medicine department, radiotherapy and radiology departments it is very difficult to organize and include Medical Physics as a recognized profession in the National Labour Organization (NLO) classification of professions. There is no register for Medical Physicist in Macedonia. In order to improve the status of Medical Physics in Macedonia, medical physicists were organized in Professional Association "Association for Medical Physics and Biomedical engineering (AMPB), established in 2000. It consists of 9 medical physicists at present. Also, there are several on-going research and educational projects in which medical physicists are taking active part to upgrade and spread their experience in the field of medical physics.

This is short report for the current status and situation in the field of medical physics in the Republic of Macedonia.

We are very pleased to become an active part and one of the very first members of the newly created Society of Euro-American Medical Physicists. Also I would like to express my hope that the Society will increase professional cooperation among our colleagues from other countries, all over the world and it is excellent opportunity to exchange experience and information in the field of medical physics.

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