

MEDICAL PHYSICS IN FINLAND 1937-1987

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Hospital physics began in Finland when Ph.D. Paavo Erik Tahvonen was appointed to a physicist in Helsinki General Hospital in 1937. The Department of Radiotherapy in Helsinki General Hospital was founded in 1936 and the duties of the first physicist included the measurement of x-ray and radioactive devices as well as radiation safety questions - even in the whole country. Thus these activities were also the beginning of the present Institute of Radiation Protection. M.Sc. Kauno Salimäki, the successor of Dr. Tahvonen since 1949, served as acting director of the Institute of Radiation Physics in 1958-1962 after he was in 1958 appointed to chief physicist in Helsinki University Central Hospital. M.Sc. Aaro Ryttilä, a colleague to Mr Salimäki, began to develop hospital physics more into the clinical direction.

During the years 1962-1963 medical physics started to expand in our country. In this connection one should mention at least the following things:

- the new Radiation Therapy Clinic begun its operation with modern equipment
- the salaries of medical physicists were arranged comparable to the physicians
- radiation safety questions were given to the Institute of Radiation Physics when Mr Salimäki was appointed to its director and Ph.D. Marten Brenner was appointed as chief physicist at Radiation Therapy Clinic in 1962.

Other important steps were also the increasing activity in radioisotope work in Helsinki and new physicist positions in other cities all around the country. In 1970's and 1980's the number of physicists continuously increased due to more accurate radiation therapy and computer aided radioisotope diagnostics. Only in very rare places physicists have been able to work outside the traditional areas, though such could have been in medical imaging and clinical physiology. At present the number of medical physicist positions is 57 including 9 chief physicists, 41 physicists and 7 assistant physicists.

The Medical Physics Section of Finnish Association of Mathematicians and Physicists appointed in 1966 a committee for establishing the competence of medical physicists. The committee had representatives also from the Central Medical Board and from universities. In 1977 this committee was established as a working group of the Central Medical Board. The formal competence of medical physicists was first given for those appointed to the medical physicists offices. Later the competence is given on the basis of educational requirements including a degree of M.Sc. in physics or electronics and special education of four years in a hospital or a research institute. These educational requirements are comparable to those of a specialist in medicine.

Medical physicists have a high academic educational level in Finland. One third of them have a doctoral degree, 22 of them are docents or have the competence of a professor. Most of the doctoral theses have been conducted by professor Erik Spring. Professor Mårten Brenner has also conducted many of these theses. Many universities have docents lecturing in medical physics. The only professor in this field has been Ph.D. Lauri Patomäki in Kuopio University since 1974. Ph.D. Kalevi Kiviniitty was appointed to an associate professor at Oulu University in 1972.

In 1964 Mr Aaro Ryttilä invited 10 medical physicists to found a Section of Medical Physics. This was officially accepted to the Finnish Association of Mathematicians and Physicists in 1965. Later this section has also been the Medical Physics Section in the Finnish Society for Medical Physics and Medical Engineering. The Medical Physics Section has been active in organizing education in co-operation with other societies. One important course is "Devices and methods in radiotherapy" arranged every second year in Jyväskylä.

Medical physicists have been scientifically active also in many medical societies. The most important positions outside our Society were owned by docent Erkki Vauramo as the chairman of the Medical Radioisotope Society and as the chairman of *Gesellschaft für Nuklearmedizin - Europa*.

Finland has been the host for two Nordic Conferences on Medical Physics, in 1966 in Hanko and in 1980 in Nilsjö. Professors Erik Spring and Lauri Patomäki were the presidents of these meetings, respectively.

Medical physicists have established their status. However, for a great deal their activities are limited in radiation therapy and radioisotope work. In the future we should widen our profile to new areas such as medical imaging technology, clinical physiology and medical information technology.