

NUCLEAR MEDICINE IN TURKEY

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Nuclear Medicine is a medical specialty that uses radionuclides for the diagnosis and treatment of diseases and it is one of the most important peaceful applications of nuclear sciences. Nuclear Medicine has a short history both in Turkey and in the world.

The first use of I-131 for the treatment of thyrotoxicosis in Turkey was in 1958 at the Istanbul University Cerrahpasa Medical School. In 1962, Radiobiological Institute in Ankara University Medical School was established equipped with well-type counters, radiometers, scalers, external counters and a rectilinear scanner. In 1965, multi-probe external detection systems, color dot scanners and in 1967, anger scintillation camera had arrived.

In 1962, wet lab procedures and organ scanning, in 1965 color dot scanning, dynamic studies (blood flow - renograms) and in 1967 analogue scintillation camera and dynamic camera studies have started.

In 1974, nuclear medicine was established as independent medical specialty. Nuclear medicine departments have started to get established in 1978.

In 1974, The Turkish Society of Nuclear Medicine (TSNM) was established with 10 members. The first president of TSNM was Prof. Dr. Yavuz Renda. Now, in the year 2000, TSNM has 349 members. Turkish Society of Nuclear Medicine is a member of European Association of Nuclear Medicine (EANM), World Federation of Nuclear Medicine and Biology (WFNMB) and WFNMB Asia-Oceania.

Since 1974, TSNM has organized 13 national Nuclear Medicine congresses, 4 international Nuclear Oncology congresses and 13 nuclear medicine symposiums. In 1-5 October 2000, "The VII th Asia and Oceania Congress of Nuclear Medicine and Biology" was held in Istanbul, Turkey.

Since 1992, Turkish Journal of Nuclear Medicine is published quarterly and it is the official publication of TSNM.

There are a total of 112 Nuclear Medicine centers in Turkey. There are 146 gamma cameras. (52 Siemens, 35 GE, 16 Elscint, 14 Toshiba, 10 Sopha, 12 MIE, 8 Philips, 9 Others)

Two cyclotrons are recently installed in 2000, one in Istanbul and one in Izmir with 2 private PET centers. PET centers in Ankara are on the way.

The following list displays some of the commonly performed scintigraphies and the radionuclides and radiopharmaceuticals used:

Technetium 99m generators are distributed nationwide.

Thyroid scintigraphy:	Tc 99m, I 131
Parathyroid scintigraphy:	Tc 99m MIBI, Tl 201-Tc 99m subtraction
Adrenal scintigraphy:	I 131 MIBG
Bone scintigraphy:	Tc 99m MDP
Myocardial perfusion scintigraphy:	Tl 201, Tc 99m MIBI, Tc 99m Tetrofosmin
Brain scintigraphy and SPECT:	Tc 99m HMPAO, Tc 99m DTPA
Lung perfusion scintigraphy:	Tc 99m MAA
Lung ventilation scintigraphy:	Xe 133, Tc 99m DTPA radioaerosol
Liver, spleen scintigraphy:	Tc 99m sulphur colloid, Tc 99m tin colloid
Bone marrow scintigraphy:	Tc 99m nanocolloid
Hepatobiliary scintigraphy:	Tc 99m HIDA, Tc 99m DISIDA, Tc 99m Mebrofenin
Lymphoscintigraphy:	Tc 99m nanocolloid, Tc 99m Dextran
Oncology (Tumor Imaging):	I 131, Tc 99m MIBI, Tc 99m Tetrofosmin, I 131 MIBG, Ga 67
Renal scintigraphy:	Tc 99m DTPA, Tc 99m EC, Tc 99m Mag3, Tc 99m DMSA
Infections:	Tc 99m HMPAO WBC, Tc 99m Nanocolloid, Tc 99m Polyclonal IgG

Due to very high cost, Ga 67, In 111, Xe 133 and I 123 are not frequently used.

Turkish Atomic Energy Agency provides license for nuclear medicine departments and therapy wards according to the written regulations. The import and nationwide transport of radioactive substances and disposal of wastes are under the control of this agency. All nuclear medicine clinics need to be licensed by this agency in order to purchase radioactive materials.