

SPECT

An imaging modality which measures the emission of single photons from radioactive tracers to construct images of the distribution of the tracers in the body.

It is a nuclear medicine imaging modality, which uses a radio-labelled pharmaceutical which can be incorporated into a metabolically active compound, the distribution of which can then be imaged using a rotating/multi-headed Gamma camera to reconstruct a three-dimensional data set. This can then be used to display cross-sectional images similar to a CT scan or used for reconstruction of a 3D image.

The same radiopharmaceuticals are used for SPECT as for usual nuclear medicine scans. These include:

- (1) $\text{Tc}^{99\text{m}}$ MDP \rightarrow bone scan
- (2) I^{131} MIBG \rightarrow endocrine scan
- (3) In^{111} -labelled WBCs \rightarrow splenic scan
- (4) $\text{Tc}^{99\text{m}}$ HMPAO \rightarrow brain scan
- (5) $\text{Tc}^{99\text{m}}$ sestamibi \rightarrow myocardial perfusion scan