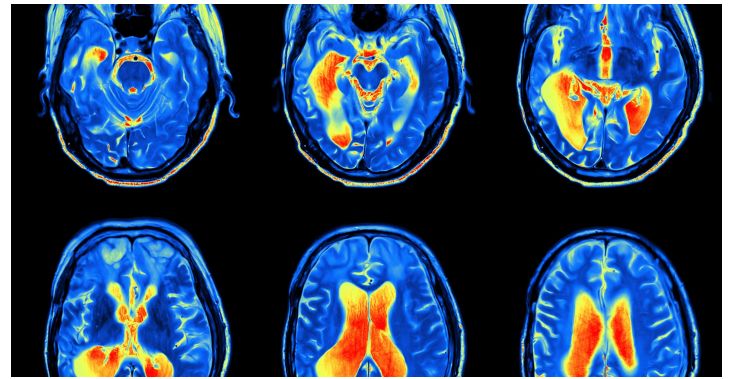


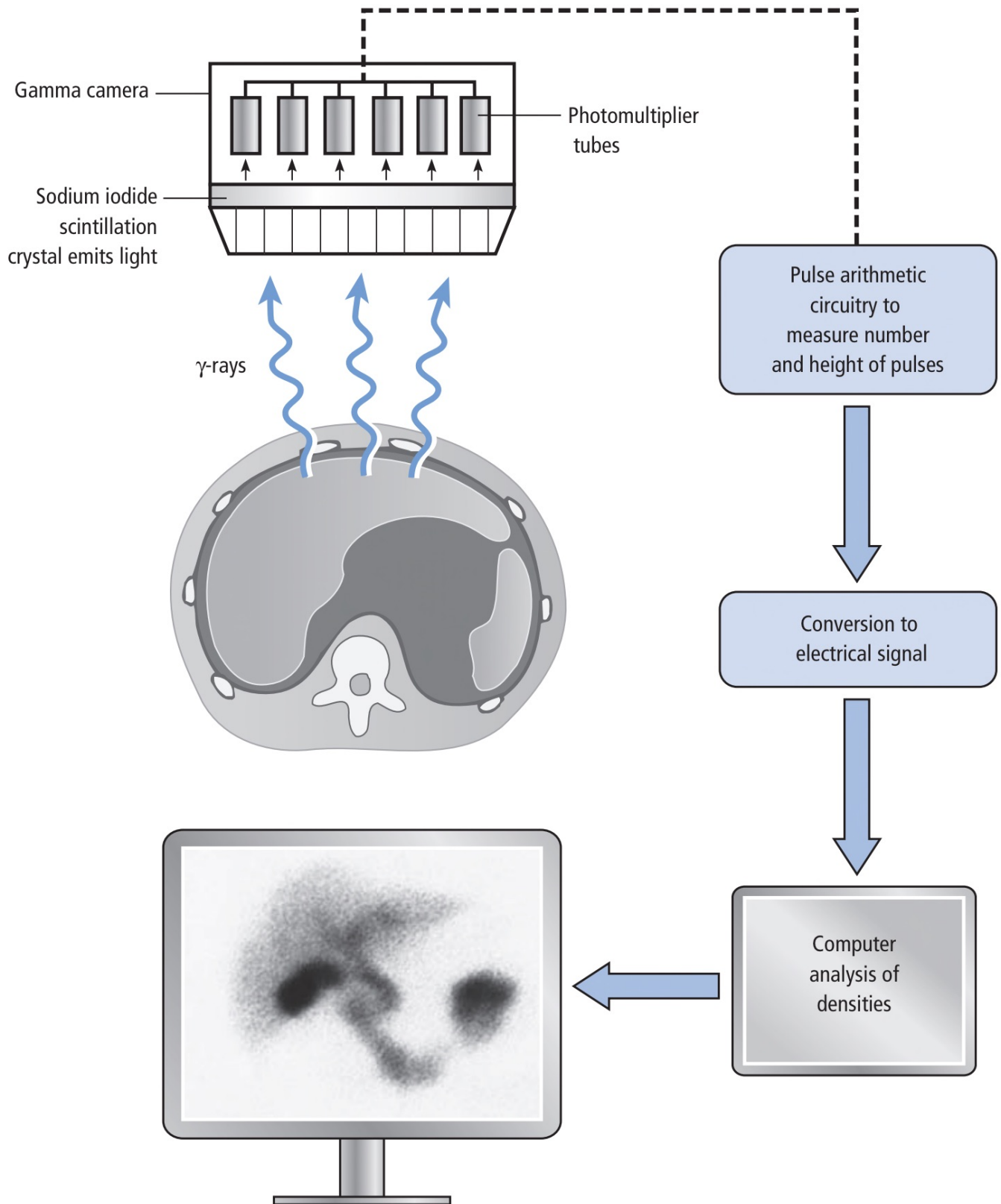
- Radionuclide imaging is a valuable diagnostic tool, the principal modality that examines abnormal physiology of body in preference to anatomical detail.



- Technetium - 99m is the commonest isotope used, & by tagging with certain substances a particular region of interest can be targeted.

Table 1.1 Typical applications of isotopes.

Anatomical area	Agent	Application
Respiratory tract	Tc99m microspheres Krypton, DTPA	Perfusion and ventilation scanning for diagnosis of pulmonary embolus
Cardiovascular	Thallium-201 Tc99m MIBI	For infarct imaging as it accumulates in normal myocardium showing a defect corresponding to infarcts
Gastrointestinal	Na pertechnetate and Tc99m-labelled WBCs	Studies to detect Meckel's diverticulum and inflammatory bowel conditions
Liver and spleen	Tc-labelled sulphur colloid	Reticuloendothelial uptake to image focal abnormalities
Biliary system	Tc99m HIDA	Useful in cholecystitis and obstruction, as isotope uptake in liver is excreted in bile
Urinary tract	DMSA MAG3	Studies of renal functional and anatomical abnormalities
Skeletal	Tc-labelled phosphonates	Uptake at sites of increased bone turnover, e.g. tumours and arthritis
Thyroid	Iodine-131 or Tc99m	Assessing focal nodules
Parathyroid	Thallium-201 Tc99m MIBI	May visualize adenomas



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