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## Evaluation of the absorbed dose to the kidneys due to Tc99m (DTPA)/Tc99m (Mag3) and Tc99m (Dmsa)

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The estimated dose absorbed by the kidneys, during studies of renal function of adult patients can be done through the analysis of the bio-kinetics of radiopharmaceuticals used, which contain Tc99m (DTPA)/Tc99m (MAG3) or Tc99m (DMSA). The absorbed dose in the kidneys of adult patients has been assessed using the bio kinetics of radiopharmaceuticals containing Tc99m (DTPA)/Tc99m (Mag3) or Tc99m (Dmsa). The absorbed dose was calculated using the formalism MIRD and the Cristy-Eckerman representation for the kidneys. The absorbed dose to the kidneys due to Tc99m (DTPA)/Tc99m (Mag3), are given by 0.00466 mGy.MBq<sup>-1</sup>/0.00339 mGy.MBq<sup>-1</sup>. Approximately 21.2% of the absorbed dose is due to the bladder (content) and the remaining tissue, included in bio-kinetics of Tc99m (DTPA)/Tc99m (Mag3). The absorbed dose to the kidneys due to Tc99m (Dmsa) is 0.17881 mGy.MBq<sup>-1</sup>. Here, 1.7% of the absorbed dose is due to the bladder, spleen, liver and the remaining tissue, included in bio-kinetics of Tc99m (Dmsa). Using the MIRD methodology and the Cristy-Eckerman representation for kidneys of adult patients, it is shown that, during studies of renal function, the contributions dissymmetric organs, which are part of the bio kinetics (excluding the kidneys) of Tc99m (DPTA)/Tc-99m (DMSA), and Tc-99m (MAG3), are very significant in the estimated dose absorbed by the patient.

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