# International Workshop on Medical Physics and Biomedical Engineering

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**Title:** Dosimetry in Radionuclide Therapy

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**Abstract:**

The aim of the presentation is to introduce basic concepts related to internal radiation dose calculation after administration of a therapeutic radiopharmaceutical. The main concepts introduced in this presentation are: radiation absorbed dose, internal radiation dosimetry, human mathematical models for dosimetry, dose factors (S-values), voxel-based dosimetry, equivalent dose, effective dose and biologically-effective dose. Additionally, the workflow of different dosimetry approaches (i.e. planar, hybrid and volumetric) will be explained. At the end of the presentation, a study case from a series of nuclear medicine images to the calculation of the absorbed dose in an organ at risk will be presented.

After the presentation, the students should be able to:

- define the concepts of radiation absorbed dose, equivalent dose, effective dose and biologically-effective dose.
- describe the workflow to calculate the absorbed dose in regions/volumes of interest starting from a series of nuclear medicine images.
- identify the main parameters that determine the absorbed dose in organs at risk.