

Review of Methods and Computer Codes for Interpretation of Bioassay Data

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Internal dose determination is an essential component of individual monitoring programmes for workers or members of the public exposed to radionuclides, and methods and computer programs are required for dose assessment. A recent international European Radiation Dosimetry Group (EURADOS) intercomparison has shown unacceptably large ranges in the results assessment. An ICRP working party has been initiated to consider what guidance ICRP can give on the use of models and interpret bioassay data in terms of intake/dose. In this field, six codes for bioassay data interpretation, which implement the current ICRP publication 78 biokinetic models, have been reviewed against several criteria with different levels of importance: minor criteria such as the practical use of the code and the graphical capabilities, and major criteria such as the choice of available parameters, peculiarities of data fitting and interpretation, the choice of biokinetic models and the use of uncertainties. All these criteria were assessed using one artificial set of data and two examples extracted from the previous international EURADOS intercomparison.

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