

AbstractID: 1290 Title: DESIGN OF A WEB PAGE WITH DOSIMETRIC TG-43 PARAMETERS FOR ALL DIFFERENT MODELS OF Cs-137 AND Ir-192 SOURCES USED IN BRACHYTHERAPY

Introduction and purpose: Brachytherapy calculations with treatment planning systems (TPS) are frequently based on interpolations from a dose rate table (DRT) in water, stored for each source. The most accurate and recommended method is to introduce a DRT, in rectangular co-ordinates or expressed in the TG-43 formalism, directly from a well-referenced data set taken from literature. So, these DRT form the basic data for clinical brachytherapy dosimetry, to be used as input for the TPS and always as the gold standard to fully verify TPS calculations.

The purpose of this study has been to get a compilation of DRTs for the different Cs-137 and Ir-192 source models and to present them in the web.

Material and method: Full dosimetric information for the sources has been prepared in EXCEL spreadsheets. For each source model spreadsheets containing the general information of the source, a diagram with the materials, the along-away DRT, the dosimetric quantities of the TG-43 formalism, the Sievert parameters and references, are presented. For each source, dosimetric data has been taken from a reliable reference. The selection criteria have been an appropriate special resolution required for brachytherapy planning, and experimentally validated Monte Carlo calculations.

Dosimetric data are available at the address:

http://www.uv.es/~fballest/braphys/brachytherapy_dosimetric_parameters.html

Conclusion: This work is an attempt to simplify the task of the medical physicist in the commissioning and quality assurance of the TPS in brachytherapy. This www site shall be completed and updated in collaboration with the BRAPHYQS Physics Network group inside the ESQUIRE project of ESTRO (<http://www.estro.be>).