

In the last 5 years, a considerable amount of dosimetry data for the three coronary brachytherapy systems in use in the United States has been reported. A subgroup of the AAPM subcommittee on Intravascular Brachytherapy (Bruce Thomadsen, Chair) was charged to develop recommendations for dose calculation formalism and the consensus dosimetry parameters. Preliminary recommendations of this group are presented here. For the Cordis ^{192}Ir and Novoste $^{90}\text{Sr}/\text{Y}$ system, the original TG-43 formalism in spherical coordinates should be used along with the consensus values of the dose rate constant, geometry function, radial dose function and anisotropy function for the single seeds. Contributions from the single seeds should be added linearly for the calculation of dose distributions from a source train. For the Guidant ^{32}P wire system, the modified TG-43 formalism in cylindrical coordinates along with the recommended data for the 20 and 27 mm wires should be used. Data tables for the 6, 10, 14, 18 and 22 seed trains of the Cordis system, 30, 40 and 60 mm Novoste system and the 20 and 27 mm Guidant system will be presented along with our rationale and methodology for selecting the consensus data. Briefly, all available datasets were compared with each other and the consensus dataset was the one which was the most densely populated and systematic study; in most cases this was a Monte Carlo calculation. The consensus dose rate constant was the average of all accepted values reported in the peer-reviewed literature.