

Dwell time and position optimization in HDR treatment planning concentrates higher dose in the target volume with relative sparing of organs at risk. Because the number of straight catheters creates a geometrical matrix of dwell positions, the template implants are well suited for geometrical optimization. However, in prostate implants such optimization is found to result in higher dose to urethra. So, for limiting the dose to urethra along the center of the implant, and also to bladder and rectum, manual adjustment of dwell times is always required, resulting in individualization of such treatment plans. In order to maintain consistency from patient to patient in dose prescription and treatment planning, we have utilized dose volume histograms (DVH's) while carrying out 3D dosimetry of the prostate cases. 'Natural' DVH shows a marked peak when the dose between the catheters is uniform. The consistency in dose prescription was maintained by planning in such a way that the dose prescription point was always just near the base of this peak. In the analysis of first 80 treated cases it was found that the FWHM of the Natural DVH ranged between 1.8 to 2.5 Gy, the hyper dose sleeve was restricted to 1 cm³ in 94% of the cases. Total air kerma strengths of the planned cases matched within about 5% with those obtained from the modified Paterson Parker tables. Uniformity and Quality indices evaluated for these cases will also be presented.