

**Purpose:** It is widely accepted that the quality of IMRT plans relies on individuals' planning experiences. RapidArc offers large degrees of freedom in dose shaping. While calculation and optimization take longer time, it is necessary to standardize planning in order to control the quality and efficiency. In this report, we present our progress in this regard in prostate and post-prostatectomy (prostate bed) radiation therapy.

**Material and methods:** 12 prostate (78Gy/39) and 10 prostate bed (66Gy/33) pts were retrospectively planned using single arc and double arc respectively to test the standardization templates without interventional adjustment. The highest optimization priority is given to target, followed by sharp dose falloff (NTO in Eclipse) and OARs constrains with step-down priorities. This priority setting aims to efficiently utilize arc features and produce optimal conformal dose. OARs within beam-range were used as optimization structures to minimize the impact of patients' anatomical variations on dose limits. The standardized plans were compared to the clinically treated plans which were previously optimized by individual dosimetrists using single arc for prostate and dIMRT for prostate bed.

**Results:** Standardized plans show superiority over clinical plans in target dose, OARs sparing and dose conformity. For prostate, the average rectum D50 was reduced by ~6Gy from 42Gy to 36Gy while D25 was decreased by 2Gy from 58Gy to 56Gy; target dose, bladder and femoral dose are equivalent. For prostate bed, the average rectum D50 was lowered by ~5Gy from 37Gy to 32Gy; target dose is more conformal with Dmax being reduced by 1Gy; femoral dose is spared by ~7Gy and bladder dose is equivalent.

**Conclusions:** Standardizing Arc planning can significantly improve plan quality and planning efficiency. Our center has implemented the procedures. Clinical practice shows the standardized templates are robust and only ~15% of the plans need individual improvement due to unusual anatomy.