

Dose volume histograms are a useful tool to help evaluate a particular treatment plan prior to a radiation treatment and in the case of prostate implants to help evaluate the quality of the implant after the procedure has been performed. In order for a Dose Volume Histogram (DVH) to present useful information there are two things which need to be determined; the particular volume of interest and the various isodose surfaces. For prostate implants the shapes of the isodose surfaces are determined by the location of the sources in and around the prostate. In this study two experienced physicists were asked to visually determine the positions of I-125 seeds on a series of post-implant CT images made of twenty patients. Source locations were entered on CT images using a commercial treatment planning system. Each physicist then entered all possible sources on each of the CT slices and allowed the computers redundancy correction program to eliminate possible repeat source locations. DVH's were generated for all four cases for each of the twenty patients and compared. Results indicate that small changes in source location due to user variation can significantly effect the reported results of permanent prostate implants.