

## **"Treatment of Gleason Score 7 Prostate Cancer with I-125 Implant Followed by External Beam Radiotherapy"**

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The majority of men with Gleason score 7 prostate cancer recur after treatment with external-beam radiation. This study presents the disease-free survival (DFS) of men with Gleason score 7 prostate cancer treated with simultaneous radiation, using a rigorous prostate-specific antigen (PSA) definition of disease freedom. From February 1993 to November 1997, 208 men with Gleason score 7 clinical state T1 T2 prostate cancer were treated by simultaneous radiotherapy: Prostate I-125 implant followed by external-beam radiation. The median pretreatment PSA was 8.4 ng/ml (range, 1.9-87.9). All men were treated with I-125 interstitial implants using the transperineal technique followed in three weeks with external beam radiotherapy (45 to 52.5GY). The median age pretreatment was 68 (range, 44-86), and the median follow up was 18 months (range, 3-66 months). There were 25 blacks and 183 whites. No patient received hormonal therapy. Disease freedom is defined as achieving and maintaining a posttreatment PSA of 0.5 ng/ml. The overall 5 year DFS for the entire group is 80%. According to pretreatment PSA groups: 4.0 ng/ml, and 10.1-20 ng/ml, the five year disease-free survival rates are 99.5%, 93%, and 62% respectively. The 54 month DFS for men with pretreatment PSA >20.0 ng/ml is 68%. On multivariate analysis, pretreatment PSA is significantly associated with disease free survival but stage, age and race are not significant factors. The technique of radiotherapy used in this study is reasonably effective in treating men with Gleason score 7 prostate cancer, evidently by a large percentage of these men achieving and maintaining PSA 0.5 at five year follow up.