

## **"Probability of Achieving PSA Nadir 0.5 Ng/ml After Radiotherapy of Prostate Cancer"**

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Achievement of PSA nadir 0.5 ng/ml is a surrogate for ten year disease free survival (DFS) following radiotherapy of prostate cancer. We previously documented 81% of men treated with retropubic implant followed by external beam radiation are projected to achieve PSA nadir 0.5. This report documents the percent of men to achieve PSA nadir 0.5 ng/ml with transperineal implant followed by external beam radiation. From 1993-1995, 401 men with clinical stage T1T2NO prostate cancer were treated by transperineal prostate (12,000 cGy) and seminal vesicle implant followed by external-beam radiation (4500 cGy) plus 750 cGy seminal vesicle boost to high risk men. The median pretreatment PSA was 7.5 ng/ml (range, 0.8-87.8 ng/ml) and median follow up was 42 months (range, 3-66 months). None received hormone therapy prior to recurrence. The Kaplan-Meier method was used to calculate the percent of men achieving PSA nadir 0.5 ng/ml. 94% of all men calculated to nadir 0.5 ng/ml by 5 year follow up. The projected achievement of nadir 0.5 ng/ml according to PSA groups 4.0 ng/ml, 4.1 -10.0 ng/ml, 10.1-20.0 ng/ml and >20.0 ng/ml is 100%, 100%, 80% and 82% respectively. The five year DFS rate for men who nadir 0.5 ng/ml is 97% and the 3 year DFS rate for men who nadir at 0.6-1 and >1.0 is 55% and 33%, respectively. Multivariate analysis shows that pretreatment PSA is the most significant prognostic factor for achievement of PSA nadir 0.5 ng/ml. Simultaneous radiation with the ultrasound technique appears to increase the probability of achieving PSA nadir 0.5 ng/ml by five year follow up.