



# 10-Year Outcome for Men with Localized Prostate Cancer Treated with External Radiation Therapy: Results of a Cohort Study.

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## Background

Localized [prostate cancer](#) is currently treated with either surgery or radiation, and the optimal treatment strategy remains controversial. Prostate cancer is a slow-growing in most men, and published data often lack the long-term follow-up to determine differences in treatment outcome. The ASTRO consensus definition for biochemical failure after definitive radiation stresses that the PSA may continue to decline for up to two year post treatment, and requires three consecutive rises in PSA for a failure. This process could take four to five years to determine failure, whereas after radical prostatectomy, any rise in PSA post-operatively is considered failure. The authors stress that in order to compare radiation versus surgery in this situation; the follow-up period must be long enough such that most failures have had a chance to occur. Thus in this study, the authors review the outcome after definitive radiation for patients with a follow-up of almost ten years.

## Materials and Methods

- 205 men with T1-2 prostate cancer at Massachusetts General Hospital treated with radiation only between 11/1991 and 2/1993
- All treated with conventional external beam XRT - none with conformal RT and none with neoadjuvant or adjuvant androgen deprivation therapy
- 49% of patients had T1b-T2a, all but one patient had T2b or less
- Median dose to prostate 68.4Gy
- Median pretreatment PSA 9.6 (range 0.8 to 661), 52% had PSA < 10
- 69% of patients had Gleason 6 or less
- Median age 72 years

## Results

- Overall survival at 5 and 10 years was 87% and 53%
- Cause-specific survival at 5 and 10 years was 97% and 89%
- Biochemical relapse-free survival was 62% and 49% at 5 and 10 years (ASTRO definition)
- At 10 years, 38% of patients had died, 8% from prostate cancer
- Of patients dying of other causes, 16 of 62 had evidence of recurrence at time of death
- Median pretreatment PSA for those dying of prostate cancer was 21, and all had palpable disease
- At 10 yrs, 127 patients are alive, 46% with biochemical evidence of recurrence, 29 of the 127 have required androgen deprivation therapy.

## Discussion

The authors state that these results can be used as a benchmark with which to compare newer radiation techniques. In this series, most of the patients were too old for surgery, and only 8% died of prostate cancer. However, almost half had biochemical evidence of recurrence at 10 years. None of these patients were treated with conformal therapy and the median dose of 68.4 Gy is lower than the 70-78Gy we use today.

Also, the authors do not indicate the studies used for staging, but by Gleason score and PSA alone, almost 62% had intermediate or high risk features (Gleason > 6 or PSA > 10), and thus were at higher risk for recurrence. An analysis of biochemical failure by Gleason score or PSA was not included in the study.

In summary, these results provide baseline for determining the efficacy of newer radiation techniques. We should also discuss the issue of biochemical recurrence with patients when advising a definitive treatment strategy for early stage prostate cancer.

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