

# Treatment Outcomes and Quality-of-Life Issues for Patients Treated With Prostate Brachytherapy

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As prostate-specific antigen (PSA) screening has gained popularity, the incidence of men diagnosed with prostate cancer has increased. In 2002, 189,000 men were expected to be diagnosed with prostate cancer and 30,200 were expected to die because of it, making prostate cancer the second leading cause of cancer death in males (Jemal, Thomas, Murray, & Thun, 2002).

Fortunately, the number of prostate cancer deaths has continued to decline at an average of 4.5% per year since 1995 (Jemal et al., 2002). This decline may be because of early detection as a result of PSA screening or improvements in the treatment of prostate cancer. Refinements in the techniques used to treat prostate cancer ultimately led to higher cure rates. Radical prostatectomy, external beam radiotherapy (including conformal and intensity modulated techniques), and prostate brachytherapy are considered to be the main curative modalities in the treatment of prostate cancer.

Prostate brachytherapy has become increasingly popular in recent years. Sophisticated treatment-planning computers, improvements in transrectal ultrasonography, and refinements in implant techniques have significantly improved the accuracy of seed placement. Patients always are searching for the therapeutic intervention that offers the best outcome (i.e., greatest potential for cure) with the fewest adverse side effects. The majority of studies have reported that

The increasing popularity of brachytherapy for treatment of early-stage prostate cancer requires oncology nurses to have a comprehensive knowledge of the disease, its treatment, and management of side effects. Because quality-of-life (QOL) issues have become an important consideration in treatment selection for many patients, oncology nurses must have a thorough understanding of these QOL issues and their management. Armed with knowledge about prostate brachytherapy and its effect on QOL, oncology nurses can offer accurate information and evidence-based symptom management techniques to patients undergoing brachytherapy for prostate cancer.

**Key Words:** prostatic neoplasms, radioisotope brachytherapy, quality of life

brachytherapy for patients with prostate cancer is as favorable as the most promising radical prostatectomy and external beam radiation series with a decreased incidence of urinary and rectal morbidity and less sexual dysfunction (Merrick, Butler, Lief, & Galbreath, 2001b). These quality-of-life (QOL) issues have an important role in the selection of treatment options.

Oncology nurses must be well informed about prostate cancer, treatment options, and associated side effects. Abel and colleagues (1999) published a comprehensive synopsis of nursing interventions for the management of patients after prostate brachytherapy. Nurses also must keep abreast of the latest research and advances to provide evidence-based nursing care to their patients. This article presents a comprehensive review of the literature and an update on the most recent research on prostate brachytherapy.

## Risk Stratification

No prospective randomized trials have offered a comparative analysis of the efficacy of treatment options. Therefore, risk stratification based on pretreatment PSA, clinical staging, and the Gleason score has been invaluable in comparing treatment outcomes.

PSA is a protein produced by the lining of the prostate. In normal, healthy men, a small amount of this protein (0–4 ng/ml) can be detected in the bloodstream. In men with prostate cancer, a larger amount is produced. PSA also can be abnormally elevated in men with benign prostatic hypertrophy. However, in men diagnosed with prostate adenocarcinoma, the higher the pretreatment PSA (i.e., PSA level at the time of biopsy), the more likelihood exists for increased incidence of extracapsular extension, positive lymph node involvement, and positive margins (Partin et al., 1997).

The Gleason score is used to grade the aggressiveness of prostate cancer. This universally recognized scoring system is reliable, reproducible, time efficient, and of significant

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