

## CONTINUING EDUCATION

# The Watchful Waiting Management Option for Older Men With Prostate Cancer: State of the Science

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**Purpose/Objectives:** To summarize the recent literature and report the issues and controversies surrounding watchful waiting as a management option for prostate cancer.

**Data Sources:** All recent, published articles describing the experience, outcomes, and quality of life of men undergoing watchful waiting and the psychoeducational interventions tested in this population.

**Data Synthesis:** The outcomes of men living with prostate cancer often do not vary greatly from men who are cured from the disease through radical prostatectomy or brachytherapy. Limited intervention studies have been aimed at improving these outcomes among those who have chosen watchful waiting.

**Conclusions:** A paucity of information remains surrounding interventions to support men undergoing watchful waiting for prostate cancer. A consensus must be reached on who is most appropriate for watchful waiting. Watchful waiting does not mean doing nothing. Men who undergo watchful waiting should be assured that it is an active, deliberate process, not an opportunity to be overlooked by the healthcare system.

**Implications for Nursing:** Future nursing care and research must concentrate on understanding the experience of men who are undergoing watchful waiting and interventions to improve outcomes in this population.

**W**atchful waiting, also known as surveillance and expectant management, has been defined as initial surveillance followed by active treatment if and when progression of the prostate tumor produces bothersome symptoms (Adolfsson, 1995). The therapeutic goal of watchful waiting is to spare patients with clinically localized disease from further morbidity and mortality without compromising survival. The rationale for watchful waiting has its basis in the empiric observation that more men were dying *with* prostate cancer than *from* prostate cancer. This is supported by research showing that incidence rates far exceed mortality rates (Jemal et al., 2003). The widespread use of prostate-specific antigen (PSA) testing also has led to the early diagnosis of disease that is more likely to be organ confined and, in some cases, clinically insignificant. Diagnosis at this early juncture often leads to aggressive treatment resulting in significant morbidity, including incontinence and impotence, that detracts from quality of life (QOL).

Recommendations for watchful waiting have not come without strong opposition. Opponents cite evidence that

### Key Points . . .

- ▶ Watchful waiting is a prostate cancer management option for older men with well-differentiated low-volume prostate cancer and a life expectancy of less than 10 years.
- ▶ Watchful waiting involves an active, deliberate management approach to prostate cancer and is not an opportunity for men to be overlooked by the healthcare system.
- ▶ Little information is available to help men understand this management option and help them deal with the uncertainty and anxiety that accompanies living with cancer.

### Goal for CE Enrollees:

To enhance nurses' knowledge about the issues and controversies surrounding watchful waiting as a management option for prostate cancer.

### Objectives for CE Enrollees:

1. List criteria used to determine which men with prostate cancer may be candidates for watchful waiting.
2. Compare outcomes for men who receive watchful waiting as opposed to surgery or radiation therapy.
3. Discuss interventions being studied to address the physical and psychosocial concerns of men with prostate cancer.

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radiation therapy and radical prostatectomy offer the possibility of complete tumor eradication and cure. Active treatment may be necessary to reduce patients' anxiety and uncertainty. Treatment may reduce the risk of metastasis and the need for subsequent additional interventions. However, watchful waiting may be considered a plausible option for men with a life expectancy of 10 years or less because of illness or advanced age or men with Gleason scores greater than 7, low PSA density and velocity, and organ-confined disease (National Comprehensive Cancer Network, 2002). Additionally, this may be an appropriate option for men without urinary or sexual dysfunction and men who are asymptomatic but have tumors too advanced to cure. The "10-year rule" suggests that if men have more than a 10-year life expectancy, they should be encouraged to pursue curative treatment for prostate cancer (Krahn et al., 2002). However, watchful waiting still may be a viable option for older men who have well-differentiated, low-volume prostate cancer and a life expectancy of less than 10 years.

This article reviews published articles describing the experience, outcomes, and QOL of men undergoing watchful waiting and the psychoeducational interventions for this population of men. All studies reviewed in this article are summarized in Table 1.

## Morbidity and Mortality Associated With Watchful Waiting

Determining how ill a man will become and how long they will live in the absence of aggressive treatment for prostate cancer is essential for men undergoing this management option as well as the healthcare providers caring for them. Little information exists on morbidity in men who undergo watchful waiting. The literature that is available generally focuses on the risk of tumor growth. With careful and continuous evaluation of the tumor, growth should be detected early and treatment offered to prevent further growth and morbidity as a result of the tumor. However, currently, no empirical evidence supports this clinical practice. Given the lack of "standardized" protocol for watchful waiting, many clinicians have opted to follow the protocol outlined in the Prostate Cancer Intervention Versus Observation Trial (PIVOT), which was initiated in 1995. This protocol required patients to be evaluated every three months in year one and every six months thereafter. Evaluation of urologic symptoms as well as disease-specific and global QOL should be performed at each visit, along with PSA measurement and physical examination including digital rectal examination. Men participating in PIVOT also receive annual bone scans (Wilt & Brawer, 1997). At this point, no published outcome studies illustrate the results of PIVOT.

Griffin and O'Rourke (2001) cited other approaches, including initial follow-up every three months for the first year, decreasing to follow-up appointments every 6–12 months. Men developing symptoms, changes on physical examination, or elevations in PSA levels may be restaged via transrectal ultrasound guided biopsies and bone scan. Choo et al. (2002) noted in their study that when carefully predefined criteria for enrolling men into the watchful waiting treatment strategy were implemented, 81% of the men remained free from significant disease progression at the end of two years. The criteria for inclusion in this single-arm cohort study were

stage T1b or T2b N0M0 disease, Gleason score of 7 or less, and PSA of 15 ng/ml or less.

Further research has supported that watchful waiting is a preferred option for men with certain clinical characteristics of prostate cancer. In a study of 54 participants, multivariate analysis showed that Gleason scores equal to or greater than 6 and PSA levels equal to or greater than 10 ng/ml significantly predicted disease progression (Neulander, Duncan, Tigert, Posey, & Soloway, 2000). This research, as well as work done by Borre, Offersen, Nerstrom, and Overgaard (1998) examining the degree of angiogenesis as a means of predicting disease progression, is helpful in understanding ways to determine disease progression to prevent death from prostate cancer. In the latter study, the researchers assessed the development of new blood vessels in the prostate gland by measuring microvessel density at diagnosis and again at death among 221 men who were receiving the watchful waiting management option. The researchers found that immunohistochemically quantified microvessel density significantly predicted survival in the sample.

Symptoms of prostate cancer in men undergoing watchful waiting generally result from the tumor progressing in size and placing pressure on the surrounding urinary and reproductive structures. Consequently, problems with urination, primarily urinary retention, occur among men undergoing watchful waiting. Steineck et al. (2002) reported that men in the watchful waiting group had a higher prevalence of obstructive voiding symptoms than other treatment groups. In addition, researchers noted that more than half of the men who initially were treated with watchful waiting subsequently sought aggressive treatment within a few years in response to having an increase in bothersome lower urinary tract symptoms (Harlan et al., 2001; Koppie et al., 2000; Merrill, 2000; Penson & Litwin, 2003). The authors did not compare pretreatment bother with post-treatment bother, nor did they compare the mortality rates in this study with other published studies.

Pressure on the surrounding tissues also may result in an alteration in sexual functioning among men undergoing watchful waiting. In a study by Wallace (2001), 19 men undergoing watchful waiting reported low sexual function ( $\bar{X}$  score = 41/100) as measured by the University of California Prostate Cancer Inventory. Specific problems reported by the sample included difficulty in attaining and maintaining an erection. However, the incidence of erectile dysfunction increases with age, affecting approximately 5% of men in their 40s but increasing to 15%–25% of men by age 65 (Urology Channel, 2004). Consequently, prostate cancer may be exacerbating already prevalent problems in the older population.

The negative perception of cancer among older men often leaves the impression that "doing nothing" for their prostate cancer is a death sentence (O'Rourke, 1999). This myth began to be disputed through the early work of Johansson, Holmberg, Johansson, Bergstrom, and Adami (1992). The sample consisted of 233 men ( $\bar{X}$  age = 72 years) with early-stage prostate cancer who were given no initial treatment. The results demonstrated that after 15 years of follow-up, disease-specific survival rates were 81%, comparing favorably with men in other studies who received treatment. Other studies demonstrated similar findings. In 1988, Goodman, Busuttill, and Chisholm followed the course of 69 men diagnosed with prostate cancer incidentally during subtotal prostatectomy.

**Table 1. Summary of Watchful Waiting Studies**

Authors and Year	Purpose	Results
Albertson et al., 1995	To report on the survival rates for men with well-differentiated, moderately differentiated, and poorly differentiated prostate cancer during a period of 15 years	10-year survival rate was 91%, 76%, and 52%, respectively, for men with well-differentiated, moderately differentiated, and poorly differentiated cancers, and the 15-year survival was 72% for well-differentiated cancers and 48% for moderately and poorly differentiated cancers among a sample of 65- to 75-year-old men who were receiving the watchful waiting management option for prostate cancer.
Bacon et al., 2001	To examine quality-of-life scores among watchful waiting, radiation, and surgery for prostate cancer	Men who chose watchful waiting or radiation reported consistently lower quality-of-life scores than men who had undergone surgery.
Bailey et al., in press	To examine the benefits of an intervention to enable men with prostate cancer who elected watchful waiting to incorporate uncertainty into their lives, view their lives more positively, and improve their quality of life	Compared to controls, men who received the intervention came to see their lives in a new light and reduced their depressive symptoms; they reported their quality of life as higher now and anticipated it being high in the future.
Borre et al., 1998	To examine the ability of angiogenesis to predict disease progression	Immunohistochemically quantified microvessel density significantly predicted survival in the sample.
Choo et al., 2002	To evaluate the criteria for enrolling men into the watchful waiting treatment strategy	When criteria were followed, 81% of the men remained free from significant disease progression at the end of two years.
Galbraith et al., 2001	To follow the quality of life of patients undergoing surgery or radiation before and after treatment or those receiving watchful waiting	When compared to the treatment arms of surgery and multiple forms of radiation therapy, men in the treatment arm of watchful waiting generally did more poorly in health-related quality of life, health status, and prostate treatment-specific symptoms.
Goodman et al., 1988	To follow the course of 69 men diagnosed with prostate cancer incidentally during subtotal prostatectomy	Of the 69 men, only 6 died from prostate cancer.
Harlan et al., 2001; Koppie et al., 2000; Merrill, 2000; Penson & Litwin, 2003	To evaluate the prevalence of prostate cancer symptoms of men undergoing watchful waiting	A higher prevalence of obstructive voiding symptoms existed, leading more than half of the men who initially were treated with watchful waiting to seek aggressive treatment within a few years.
Holmberg et al., 2002	To compare mortality rates between radical prostatectomy and watchful waiting in early-stage prostate cancer	Radical prostatectomy significantly reduced disease-specific mortality, yet no significant difference existed in overall mortality between the watchful waiting and prostatectomy groups.
Johansson et al., 1997	To examine the mortality of men undergoing watchful waiting	After 15 years of follow-up, disease-specific survival rates were 81%, comparing favorably with men in other studies who received treatment.
Johnson et al., 1988, 1989	To test the effects of a tape-recorded informational intervention for men receiving radiation treatment for prostate cancer	Men receiving the intervention reported less disruption in activities of daily living.
Litwin et al., 2002	To examine the mental health components of health-related quality of life contained in the Medical Outcomes Study 36-Item Short-Form Health Survey six weeks to 24 months post-treatment	Surgical patients reported that they had the best mental health, radiation patients reported that they had the worst, and the watchful waiting group reported mental health scores that remained consistently between the surgery and radiation groups.
Mishel et al., 2002, 2003	To examine the effectiveness of the uncertainty management intervention	Men who received the intervention improved their ability to manage urinary leakage as well as their problem solving and cognitive reframing abilities. African American men improved their satisfaction with sexual functioning.
Neulander et al., 2000	To test the ability of Gleason scores and prostate-specific antigen results to predict disease progression	Gleason scores equal to or greater than 6 and prostate-specific antigen levels equal to or greater than 10 ng/ml significantly predicted disease progression.
Penson et al., 2003	To assess the quality of life and amount of bother men had with treatment-related symptoms at 6 and 24 months after their prostate cancer diagnoses and subsequent treatment with surgery, radiation, hormones, or watchful waiting	All four treatment groups had similar health-related quality-of-life outcomes 24 months after diagnosis. However, they found that sexual and urinary function and bother were linked to worsened health-related quality-of-life outcomes.
Robinson et al., 1999	To classify different nursing interventions delivered to 32 men following hospitalization for prostate cancer surgery	45% of the interventions delivered involved teaching patients about symptom management strategies, bladder-retraining exercises, usual

*(Continued on next page)*

**Table 1. Summary of Watchful Waiting Studies (Continued)**

Authors and Year	Purpose	Results
Siegel et al., 2001	To examine the morbidity of men undergoing watchful waiting compared to more aggressive treatments	Men being followed with watchful waiting were much less likely to report impotency problems compared to men who had received other forms of more aggressive or radical treatment for prostate cancer.
Siston et al., 2003	To follow the quality of life of patients undergoing surgery or radiation before and after treatment or watchful waiting	Surgery and radiation patients had significant disease-specific quality-of-life changes over 12 months post-treatment from sexual and urinary dysfunction. The men who were being followed with watchful waiting reported declines in urinary functioning only yet reported more sexual functioning problems pretreatment than the rest of the study sample.
Steineck et al., 2002	To report on the quality of life of men undergoing watchful waiting and radical prostatectomy for prostate cancer	Although overall subjective quality of life was not significantly different between the two groups, men in the prostatectomy group reported significantly more difficulties with erectile function, urinary leakage, and bowel function than men in the watchful waiting group.
Wallace, 2001	To evaluate the sexual function of men undergoing watchful waiting, as well as the ability of uncertainty to predict quality of life	Men scored an average of 41/100 possible sexual function points. Specific problems reported by the sample included difficulty in attaining and maintaining an erection. As uncertainty and the perception of danger increased, affective health-related quality of life was reduced. Moreover, these two variables explained a significant amount of variance in quality of life.
Wilt & Brawer, 1997	To evaluate the Prostate Cancer Intervention Versus Observation Trial	No published outcome studies illustrating the results of the trial are available.
Zietman et al., 2001	To examine the changeover from watchful waiting to aggressive treatment	Approximately 76% of men diagnosed with prostate cancer eventually sought some form of radical treatment after having been followed with watchful waiting.

Only six deaths were attributed directly to prostate cancer progression.

More recently, Holmberg et al. (2002) reported the results of a randomized clinical trial comparing radical prostatectomy with watchful waiting in early-stage prostate cancer. Six hundred ninety-five men were followed from 1989–1999. The median follow-up period was 6.2 years. The mean age of both groups was 64.7 years. This research team noted that radical prostatectomy significantly reduced disease-specific mortality, yet no significant difference existed in overall mortality between the watchful waiting and prostatectomy groups.

Albertsen, Fryback, Storer, Kolon, and Fine (1995) reported that the 10-year survival rate was 91%, 76%, and 52%, respectively, for men with well-differentiated, moderately differentiated, and poorly differentiated cancers, and the 15-year survival was 72% for well-differentiated cancers and 48% for moderately and poorly differentiated cancers among a sample of 65- to 75-year-old men who were receiving the watchful waiting management option for prostate cancer. These high survival rates assist in dispelling the myth of prostate cancer as an instant killer.

## Quality of Life

QOL issues are of great importance to men when they are considering the best treatment option. Steineck et al. (2002) reported about the QOL of men undergoing watchful waiting and radical prostatectomy for prostate cancer. Although over-

all subjective QOL was not significantly different between the two groups, men in the prostatectomy group reported significantly more difficulties with erectile function, urinary leakage, and bowel function than men in the watchful waiting group. Supporters of watchful waiting cite these data as further evidence that it is a reasonable alternative to aggressive treatment.

Zietman, Thakral, Wilson, and Schellhammer's (2001) study noted that approximately 76% of men diagnosed with prostate cancer eventually sought some form of radical treatment after having been followed with watchful waiting. They reported that because 74% of the men who initially had chosen watchful waiting pursued other forms of treatment within seven years, watchful waiting could be viewed as simply delaying radical or more aggressive therapy.

Siston et al. (2003) followed patients undergoing surgery or radiation before and after treatment or watchful waiting. They indicated that patients receiving surgery and radiation had significant disease-specific QOL changes over 12 months post-treatment from sexual and urinary dysfunction. The men who were being followed with watchful waiting reported declines in urinary functioning only yet reported more sexual functioning problems pretreatment than the rest of the study sample. In contrast, Galbraith, Ramirez, and Pedro (2001) found that when compared to the treatment arms of surgery and multiple forms of radiation therapy, men in the treatment arm of watchful waiting generally did more poorly in health-related QOL, health status, and prostate treatment-specific

symptoms. In both studies, the watchful waiting group was significantly older ( $\bar{X}$  age = 73 years) than the other treatment groups ( $\bar{X}$  age = 68 years).

Another study looked specifically at the mental health components of health-related QOL contained in the Medical Outcomes Study 36-Item Short-Form Health Survey (Ware & Sherbourne, 1992) from six weeks to 24 months post-treatment for a sample of 452 men who had received either surgery, radiation, or watchful waiting as management strategies for early-stage prostate cancer. Interestingly, of the three treatment groups, the surgical patients reported that they had the best mental health, the radiation patients reported that they had the worst, and the watchful waiting group reported mental health scores that remained consistently between the surgery and radiation groups—neither the highest or lowest (Litwin, Lubeck, Spitalny, Henning, & Carroll, 2002). In contrast, Bacon, Giovannucci, Testa, and Kawachi (2001) noted that men who chose watchful waiting or radiation reported consistently lower QOL scores than men who had undergone surgery.

Penson et al. (2003) assessed the QOL and amount of bother men had with treatment-related symptoms at 6 and 24 months after their prostate cancer diagnoses and subsequent treatment with surgery, radiation, hormones, or watchful waiting. Overall, the investigators reported that all four treatment groups had similar health-related QOL outcomes 24 months after diagnosis. However, they found that sexual and urinary function and bother were linked to poor health-related QOL outcomes.

Wallace (2003) conducted a descriptive study of older men undergoing the watchful waiting management option for prostate cancer. The sample consisted of 19 men aged 65–85. The results showed that as uncertainty and the perception of danger increased, affective health-related QOL was reduced. Moreover, these two variables explained a significant amount of variance in QOL.

Steineck et al. (2002) looked at men who received watchful waiting or surgical treatment for prostate cancer. They determined that men who had a radical prostatectomy were more likely than the men in the watchful waiting group to be impotent and incontinent of urine but less likely to report difficulty with voiding. At the same time, no differences existed between the two treatment groups in how they experienced anxiety, depression, well-being, or overall QOL. Likewise, Siegel, Moul, Spevak, Alvord, and Costabile (2001) reported that men being followed with watchful waiting were much less likely to report impotency problems compared to men who had received other forms of more aggressive or radical treatment for prostate cancer. Yet at the time of treatment decision, men who elected watchful waiting had the highest rates of reported impotence.

## Intervention Studies for Patients With Prostate Cancer

Since the mid-1990s, the number of intervention trials designed to address the physical and psychosocial concerns of men treated for prostate cancer has increased (Germino, 2001; Visser & van Andel, 2003). Clinical trials to evaluate the effect of educational interventions on specific outcomes include the work of Johnson, Lauver, and Nail (1989) and Johnson, Nail, Lauver, King, and Keys (1988), who tested the

effects of a tape-recorded informational intervention for men receiving radiation treatment for prostate cancer. Men receiving the intervention reported less disruption in activities of daily living. Johnson et al. (1989) sought to explain the effects of the recorded informational intervention using two different theoretical orientations: self-regulation theory of coping and emotional-drive theory. Leventhal and Johnson (1983) identified cognitive schema as a central concept of self-regulation theory and proposed that a schema can help patients to focus on objective information. Emotional-drive theory (Janis, 1958) hypothesized that a person's level of anxiety prior to an event influences coping competence by its effect on self-preparation. Self-preparation describes the cognitive work connected to thinking about the event and how one might cope. The investigators noted that improving men's understanding of treatment was the intervention's most important function. Johnson (1996), in another test of self-regulation theory, examined the benefit of concrete, objective information and instruction in self-care and coping for 62 men undergoing radiation treatment for prostate cancer. Men were randomized to one of three groups: control, information, and self-care. Each group received three audiotapes with different messages delivered throughout the course of their treatment. Men receiving the concrete information experienced less disruption in recreational activities than did the other two groups.

As part of a large, nursing-intervention, controlled clinical trial of older surgical patients with cancer, Robinson et al. (1999) classified different nursing interventions delivered to 32 men following hospitalization for prostate cancer surgery. Subjects received three home visits and five telephone calls from a master's-prepared nurse experienced in caring for older patients with cancer. Nearly half (45%) of the interventions delivered involved teaching patients about symptom management strategies, bladder-retraining exercises, usual course of recovery, and how to recognize postoperative complications. Psychologically based therapies, such as encouraging physical activity, supporting a patient's recovery process, and listening to fears about cancer, comprised an additional 20% of the interventions delivered.

Mishel et al. (2002, 2003) published the results from one of the first prostate cancer psychoeducational intervention trials to include similar numbers of African American ( $n = 100$ ) and Caucasian men ( $n = 134$ ). In this study, an Uncertainty Management Intervention (UMI) was delivered through eight weekly telephone calls to men treated surgically or with radiation therapy for their disease (Mishel et al., 2002). Men were randomly assigned to one of three treatment conditions: control, men who received the intervention, or men and a family member who received the intervention. Men who received the intervention improved their ability to manage urinary leakage, improved their problem solving, and improved their cognitive reframing ability. African American men improved their satisfaction with sexual functioning. Wallace (2004) adapted the UMI for use in a sample of older men undergoing watchful waiting for prostate cancer and currently is testing the intervention with a sample of older men undergoing this management option.

Despite the growth of intervention studies for men with prostate cancer, none of these studies has focused on men electing watchful waiting. Thus, as Sharp, Blum, and Aviv (1993) acknowledged, the psychological ramifications of this treatment decision remain largely unknown. In another

review, Germino (2001) found that intervention trials for men undergoing watchful waiting as a treatment for prostate cancer were absent from the literature and that the needs of these men have not been studied. Further, Griffin and O'Rourke (2001) recommended that interventions be designed to help men to deal with the continual uncertainty of electing watchful waiting as management option for prostate cancer.

In the first theoretically designed psychoeducational clinical trial for men electing watchful waiting, Bailey, Mishel, Belyea, Stewart, and Mohler (in press) used an experimental design to examine the benefits of an intervention to enable men with prostate cancer who elected watchful waiting to incorporate uncertainty into their lives, view their lives more positively, and improve their QOL. Participants were enrolled in the study after a physician had assigned the men to a watchful waiting protocol. Subjects electing watchful waiting who agreed to participate were randomly assigned to an experimental group (n = 21) or control group (n = 20). The investigator then delivered a watchful waiting intervention to subjects in the experimental group. Control subjects had access to naturally occurring sources of support.

The intervention was designed for patients experiencing continued uncertainty related to the selection of watchful waiting as treatment for their disease. The intervention had two components. The first was designed to encourage the use of probabilistic thinking to develop cognitive schemas to reframe uncertainty. The second component helped patients incorporate uncertainty into their life structure so that uncertainty was accepted as part of the natural rhythm of their lives.

Repeated measures analyses of variance on the final sample size of 39 revealed that, compared to controls, men who received the intervention came to see their lives in a new light and reduced their depressive symptoms. They reported their QOL as higher and anticipated it being high in the future. Two moderator variables, functional status and number of health problems, interacted with the intervention to influence outcomes. Men in the experimental group who had lower functional ability showed a greater increase in cognitive reframing ability and a decrease in their level of confusion. Confusion was measured with items such as forgetfulness, inability to concentrate, and bewilderment. Men with more health problems experienced a greater decrease in depressive symptoms and rated their future QOL significantly higher than controls.

This is the first trial of the watchful waiting intervention with any sample, and the results are promising and should be used to continue investigations in this area. The study's findings demonstrate the value of using theory as a foundation for developing and testing interventions. By providing additional information about men's experiences with uncertainty in the context of watchful waiting, the findings support Mishel's (1990) Reconceptualized Uncertainty in Illness Theory and provide the framework for future research around these variables.

Mishel (1990) proposed that the nature of chronic illness causes continual uncertainty to spread from uncertainty about symptoms and disease state to uncertainty about broader life issues and the ability to achieve valued goals. This shift happens because the individual is unable to eliminate the uncertainty. Meaning attached to usual routines is disrupted. The disruption caused by continued uncertainty can dismantle a person's sense of order and structure. Using

tenants of the chaos theory, the original uncertainty in illness theory was expanded to include the view that individual growth and self-organization are appropriate endpoints for ongoing uncertainty often associated with chronic conditions (Mishel). Thus, patients can use uncertainty to reorganize and recreate their life view. Uncertainty can serve as the catalyst for them to move from an old life view with limited choices to a new one with multiple opportunities and enhanced flexibilities (Gelatt, 1989).

## Implications for Future Research

Outcomes for men with prostate cancer who elect watchful waiting often do not vary greatly from men who are cured of the disease through radical prostatectomy or brachytherapy. Although men undergoing watchful waiting may have disease progression, urinary symptoms, and uncertainty surrounding their disease, men undergoing radical prostatectomy and radiation therapy also may experience disease progression and urinary, sexual, and bowel problems that may extend throughout their lives. Especially for older men, receiving aggressive treatment for early-stage prostate cancer has been suggested to threaten their QOL and inadvertently may produce a greater physical burden (i.e., morbidity) than the primary disease itself (George, 1998; Ko & Buble, 2001).

Prostate cancer is a prevalent disease among men in the United States. Watchful waiting offers older men with prostate cancer an alternative to aggressive treatment and the side effects that often accompany it. A consensus must be reached on who is most appropriate for watchful waiting. Future research also must concentrate on the experience of men who are undergoing watchful waiting to learn how men manage the unresolved uncertainty about leaving cancer untreated. Further research is needed regarding the experience of physical symptoms during watchful waiting and how these influence uncertainty and QOL of this population. Bailey et al. (in press) and Wallace (2003) have begun to provide insight into the concerns that men undergoing watchful waiting face, but these findings must be replicated with larger samples.

Uncovering the influential variables that affect QOL of men undergoing prostate cancer is essential. The next step is to design and test interventions in large samples of men electing watchful waiting. Future studies using the Reconceptualized Uncertainty in Illness Theory or the watchful waiting intervention should include subjects with limited abilities and those suffering from other health concerns often found in samples of older adults.

The choice to undergo watchful waiting does not mean "doing nothing." If men choose watchful waiting as a prostate cancer treatment option, they should be assured that it is an active, deliberate process, not an opportunity to be overlooked by the healthcare system. The research agenda surrounding this management option must view it as a viable alternative to surgery or radiation with consideration for the impact of the disease and ways to improve the morbidity, mortality, and QOL of older men undergoing watchful waiting for prostate cancer.

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