# Factors Affecting Performance of Usual Activities During Radiation Therapy

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**Purpose/Objectives:** To examine factors that might affect patients' ability to perform their usual activities during radiation therapy.

**Design:** Prospective, longitudinal design.

**Setting:** A community hospital radiation oncology department.

**Sample:** 77 patients receiving radiation therapy for curative or adjuvant intent.

**Methods:** The role function mode of the Roy Adaptation Model guided the study. Participants rated the extent to which they were performing their usual activities on a scale of 0 (not at all) to 10 (all the time). Data were collected at baseline prior to starting radiation, weekly during treatment, and one month post-treatment. Cross-sectional and longitudinal regression analyses were used to capture changes in performance of usual activities over time.

**Main Research Variables:** Performance of usual activities, Karnofsky Performance Status (KPS), fatigue, and side effects.

**Findings:** Participants maintained relatively high performance status throughout the course of treatment. The ability to perform usual activities decreased significantly from baseline to the end of treatment. Ability to perform usual activities was highly negatively correlated with fatigue and side effects. Work, sick-leave benefits, living situation, fatigue, KPS, and comorbidities were associated with ability to perform usual activities along the trajectory of radiation therapy.

**Conclusions:** Fatigue and side effects of treatment negatively affected patients' ability to carry out their usual activities during radiation therapy.

**Implications for Nursing:** Management of side effects of treatment, including fatigue, and supporting patients' need to work or not work during treatment may help patients continue to perform activities that are important to them during radiation therapy.

## Key Points . . .

- Side effects of treatment, including fatigue, may impact patients' ability to maintain their usual activities such as work, household chores, and social activities during radiation therapy.
- Patients with comorbidities, those who live alone, those who receive concurrent chemotherapy, and those who receive radiation to the chest or head and neck area are at higher risk for interference with usual activities.
- Research to further identify types of activities impacted by radiation therapy is needed to guide nursing interventions.

Cancer treatment, such as radiation therapy, may have an impact on patients' ability to maintain their usual activities, including work, household chores, and social activities. Although side effects of cancer and cancer treatment, such as fatigue, have been shown to be related to functional status, no study was found that specifically looked at how levels of fatigue and site-specific side effects were associated with performance of usual activities during radiation therapy. Ahlberg, Ekman, and Gaston-Johansson (2005) found, in a sample of women receiving radiation for uterine cancer, that functional status decreased from baseline to completion of treatment. A correlation was found between general fatigue and functional status. The impact of site-specific side effects was not studied. A priority topic of the Oncology Nursing Society ([ONS], 2006) 2005–2009 Research Agenda is to maintain or promote physical function, functional status, or functional ability of individuals who receive cancer treatment. One measure of functional status is a patient's ability to carry out his or her usual activities. Gotay, Korn, McCabe, Moore, and Cheson (1992) included the ability to perform everyday activities in a broad definition of quality of life. The purpose of this study was to examine factors that might affect patients' ability to perform their usual activities during radiation therapy.

## Literature Review

Side effects of radiation therapy have been well documented in the literature. Most side effects of radiation therapy are specific to the part of the body being treated (e.g., diarrhea during radiation to the pelvis, dysphagia and esophagitis during radiation to the chest, oral mucositis during radiation to the head and neck region) and generally begin after the second or third week of treatment (Bansal et al., 2004; Knopp, 1997; Maher, 2000). In addition, fatigue consistently has been shown to be the most common and distressing side effect of radiation therapy, occurring in 65%–100% of all patients receiving radiation therapy for cancer (Haylock & Hart, 1979; Munro & Potter, 1996; Oberst, Hughes, Chang, & McCubbin, 1991; Stone, Richards, A'Hern, & Hardy, 2001; Williams et al., 2001). Fatigue related to radiation therapy generally begins in approximately the second week of treatment, increases during the course of treatment, peaks at the end of treatment, and returns to near baseline by one month post-treatment (Greenberg, Sawicka, Eisenthal, & Ross, 1992; Irvine, Vincent, Graydon, Bubela, & Thompson, 1994; Poirier, 2006).

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