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# A Pilot Study of Activity Engagement in the First Six Months After Stem Cell Transplantation

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Stem cell transplantation (SCT) is standard therapy for many hematologic cancers, and more than 17,000 SCTs are performed each year in the United States (Goldman & Ausiello, 2008). Although SCT survivors generally report high global quality of life, their social and physical functioning is lower than that of age-matched peers (Bieri et al., 2008; Kopp et al., 2005; Pidala, Anasetti, & Jim, 2009; Wettergren, Sprangers, Bjorkholm, & Langius-Eklöf, 2008). Most survivors experience fatigue during the first year after transplantation (Larsen, Nordstrom, Ljungman, & Gardulf, 2007), which can affect physical functioning, returning to work, and usual activities (Harder et al., 2002). Although most SCT survivors eventually return to school or work and resume their household activities, some survivors are unable to do so (Mosher, Redd, Rini, Burkhalter, & DuHamel, 2009).

The ability to resume previous activities and levels of activity engagement is one intuitively plausible indicator of the success of the procedure. Baker, Curbow, and Wingard (1991) found that SCT survivors who were able to retain their valued roles (e.g., worker, home maintainer, friend) had higher quality of life than survivors who reported loss of valued roles. Lee et al. (2001) similarly asked participants to assess the degree to which they were able to return to their previous lifestyles and enjoy their normal activities as a way to measure patient-centered outcomes of SCT. They found that at six months after transplantation, 53% of the autologous transplantation recipients agreed or strongly agreed with the statement "life has returned to normal" and 42% agreed or strongly agreed with the statement "I have been able to enjoy my normal activities" since transplantation. Significantly fewer recipients of allogeneic transplantations endorsed the statements (31% and 21%, respectively). Differences between allogeneic and autologous transplantation recipients had equalized at 12 months, yet about 33%

**Purpose/Objectives:** To describe the natural pace and pattern of activity resumption in the first six months after stem cell transplantation (SCT).

**Design:** Longitudinal, descriptive survey.

**Setting:** Bone marrow transplantation program of a National Cancer Institute–designated comprehensive cancer center in the northeastern United States.

**Sample:** 18 men and 18 women who underwent either autologous (83%) or allogeneic (17%) transplantation.

**Methods:** Participants were surveyed 30 days, 100 days, and six months after SCT. Descriptive statistics were followed by exploratory linear mixed modeling with factors of time, gender, and the interaction between time and gender.

**Main Research Variables:** A modified checklist version of the Activity Card Sort was used to measure activity retention.

**Findings:** Participants generally were performing 49% of their usual activities 30 days after transplantation, 70% of their premorbid activities 100 days after transplantation, and 77% of their premorbid activities six months after transplantation. Level of activity engagement increased over time, with the greatest changes observed from 30–100 days after SCT. Men retained more of their activities than women in the domains of low physical-demand leisure and social activities.

**Conclusions:** Rehabilitation screening may be most helpful in the period from 100 days to six months, when activity levels begin to plateau. Activity recovery may differ for men and women; future research should explore how this could affect rehabilitation needs.

**Implications for Nursing:** Nurses can use structured surveys to explore and promote patients' satisfaction with and ability to engage in daily activities and ensure appropriate referrals to rehabilitation during recovery from SCT.

of both samples did not endorse the statements of recovery at that time point. Lee et al. (2001) concluded that, although their data contained many encouraging reports of recovery, such as few reports of bothersome symptoms, a substantial proportion of participants did not feel that their lives, routines, and activities had returned to normal one year after transplantation.