

Common gait and movement impairments associated with childhood leukemia and solid tumors.

Pediatric cancers account for approximately 13,000 new cases of all new cancer diagnoses. The most common pediatric cancers include leukemia, lymphoma, sarcomas, and central and peripheral nervous system tumors. The 5-year relative survival rate for all childhood cancers combined has improved markedly over the past 30 years, from 58% for cases diagnosed between 1975-1979 to 83% for cases diagnosed during 2003-2009. The improvements in survival are positive advances; however, short- and long-term side effects from the cancer itself and medical interventions continues to have an impact on body function, activity and participation in school/work/play, and quality of life. These adverse health outcomes include musculoskeletal, cardiopulmonary, neuromuscular, and integumentary systems; such as chemotherapy induced peripheral neuropathy, myopathy, and osteonecrosis; surgical resection of tumors that change body alignment and damages to the nerves and muscles; and radiation treatment causing fibrosis and decreased range of motion. All of these components may lead to changes in motor function, gait abnormalities, and limitations in motor control. Thus, as physical therapists and researchers we want to explore these specific movement patterns through visual observation and the use of technology in order to advance physical therapy examination techniques and intervention programs. This presentation will identify the most common gait and movement impairments that children and adolescents with leukemia and solid tumors experience.

Brief Bio

Victoria (Tori) Marchese PhD, PT is an Associate Professor at the University of Maryland School of Medicine Department of Physical Therapy & Rehabilitation Science. Tori received her BS in Physical Therapy from the University of Tennessee, Memphis in 1994 and her PhD in Rehabilitation Sciences from MCP Hahnemann University, Philadelphia in 2001. She has numerous publications in the area of Pediatric Oncology and received the 2014 Oncology Section Research Award from the APTA.