

**PAEDIATRIC ONCOLOGY**  
**FRAILTY AFTER**  
**CHILDHOOD CANCER**

With the improvement in available treatments, an increasing number of young people with cancer reach adulthood. However, what are the long-term health outcomes of these individuals? A new study, reported in the *Journal of Clinical Oncology*, suggests that adults who survive cancer in childhood have increased frailty later in life compared with their peers of similar demographics.

The researchers assessed five markers of frailty—low lean muscle mass, exhaustion, low energy expenditure, slowness and weakness—in 1,922 patients from the St Jude Lifetime Cohort Study. “We then evaluated the impact of frailty on new onset chronic conditions and on mortality,” explains lead investigator Kirsten Ness. The cohort includes adults who were successfully treated as children—regardless of cancer type—at St Jude Children’s Research Hospital, Memphis, TN, USA, and for whom at least 10 years had past since their original cancer was diagnosed. The results from these patients were compared with those of a comparison group that included 341 participants who had not had cancer.

Within the survivor cohort, the presence of three or more frailty markers was more prevalent in women than men (13.1% versus 2.7%), which overall led to an increased likelihood of a chronic condition (82.1% versus 73.8%). “Frailty was also associated with a 2.2-fold increased risk for a new onset of a chronic condition and a 2.6-fold increased risk of death,” adds Ness. “Childhood cancer survivors are at increased risk for the development of chronic conditions when compared with their peers or siblings.”

The results are similar to those from studies of adults >65 years of age and suggests that patients who were treated in childhood for cancer undergo an accelerated ageing process later in life. “The pathobiology of this process is largely unknown,” says Ness. However, the team now plan to investigate ways that might delay, prevent or treat frailty in those who have survived childhood cancer. “Some components of the frailty phenotype might be responsive to interventions, such as exercise or pharmaceuticals,” concludes Ness.

**Tim Geach**

**Original article** Ness, K. K. et al. Physiologic frailty as a sign of accelerated aging among adult survivors of childhood cancer: A report from the St Jude Lifetime Cohort Study. *J. Clin. Oncol.* doi:10.1200/JCO.2013.52.2268