

LIMB FUNCTION AND QUALITY OF LIFE (QOL) OF SURVIVORS OF PEDIATRIC LOWER EXTREMITY BONE TUMORS: A REPORT FROM THE CHILDHOOD CANCER SURVIVOR STUDY

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Currently, it is estimated that approximately 60% of non-metastatic pediatric bone tumor patients will achieve long-term survival and thus long-term outcomes, including QOL and function, are becoming increasingly important. Patients with lower extremity bone tumors are of particular importance given that they typically receive aggressive surgical and adjuvant therapy. Utilizing standardized/validated measures, we evaluated limb function using the Toronto Extremity Salvage Score (TESS) and QOL using the City of Hope's Quality of Life-Cancer Survivor (QOL-CS) in 513 patients who survived greater than five years following the diagnosis of osteosarcoma (n=408) or Ewing's sarcoma (n=105) with a primary site in the lower extremity (n=474) or pelvis (n=39). Survivors, including 250 males and 263 females, were diagnosed and treated between 1970-1986, with a median age of 14.0 (1-20) years at diagnosis, a median age of 35.0 (22-49) years at evaluation and a median of 21.0 (13-31) years at follow-up from diagnosis. Initial surgical procedure included amputation (Amp) in 63.0% (323) and non-amputation (non-Amp) in 37.0% (190).

	TESS(1-100 Mean (SD))	QOL-CS(1-10) Mean (SD)
Initial Surgery: Amp vs. Non-Amp	85.3(±13.0 vs. 85.6(±16.6) p = 0.79	6.9(±1.4 vs. 6.9(±1.4) p = 0.84
≤12 yrs vs. >12 yrs @diagnosis	88.0(±13.6 vs. 84.0(±14.6) p = 0.003	7.0(±1.3 vs. 6.8(±1.4) p = 0.11
Extremity vs. Pelvis	85.3(±14.5 vs. 86.3(±12.5) p = 0.68	6.9(±1.3 vs. 6.2(±1.5) p = 0.002
Male vs. Female	87.8(±13.0 vs. 83.1(±15.2) p<0.001	7.0(±1.3 vs. 6.7(±1.4) p = 0.007
Osteosarcoma vs. Ewings	85.1(±13.6 vs. 86.6(±17.1) p = 0.32	6.8(±1.3 vs. 7.0(±1.4) p = 0.49

Remarkably, those with initial Amp do as well as those with non-Amp in regards to function and QOL and may reflect better adaptation to Amp over time. Tumor type appears to have no bearing on function and QOL. However, survivors treated over the age of 12 years and female survivors of pelvic lesions may need additional counseling and support services.