

**Limb Function and Quality of Life (QOL) of Survivors of Pediatric Lower Limb Bone Tumors: A Report from the Childhood Cancer Survivor Study(CCSS).** Rajaram Nagarajan, Denis R. Clohisy, University of Minnesota, Minneapolis, MN, Mark Greenberg, Hospital for Sick Children, Toronto, Canada, Joseph P. Neglia, University of Minnesota, Minneapolis, MN Charles Sklar, Memorial-Sloan Kettering Cancer Center, New York, NY Yutaka Yusai, Fred Hutchinson Cancer Center, Seattle, WA Lonnie Zeltzer, UCLA, Los Angeles, CA, Leslie L. Robison, University of Minnesota, Minneapolis, MN

Approximately 60% of non-metastatic pediatric bone tumor patients will become long-term survivors. Long-term outcomes of this population including QOL and function are becoming increasingly important. The lower extremities are the most common site and options for local disease control include amputation(Amp) and limb sparing procedures(Non-amp). Utilizing standardized and 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. Subjects were from the CCSS and had survived over five years following a 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(1-20) years at diagnosis and a median age of 35(22-49) years at evaluation. Initial surgical procedure included Amp in 63%(323) and Non-amp in 37%(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

No difference in function or QOL was observed between those patients treated with Amp and non-Amp which may reflect better adaptation to Amp over time. Tumor type appears to have no bearing on function or QOL. However, survivors treated over the age of 12 years, female survivors and survivors of pelvic lesions had either diminished TESS or QOL scores and may need additional counseling and support services.