

Are Sports Activity Levels reached in long-term survivors of Bone and Soft-tissue Sarcomas after limb salvage surgery associated with better Quality of life?

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Background: Little is known about sports activity levels in long-term survivors of musculoskeletal sarcoma and if these levels are associated with Quality of life (QOL).

Question/Purpose: The aim of the study was to assess QOL benefit of sports-activity levels reached in long-term survivors of musculoskeletal sarcomas after multimodality of treatment (chemotherapy and limb-salvage surgery of the lower extremity) performed at a single institution.

Methods: This study comprised 83 (37 f/46 m) long-term survivors of primary soft-tissue and bone malignancies [age at diagnosis 23 ± 11 years, mean followup time 13 ± 6 years (minimum 5 years)]. Tumors were located in the lower extremity and pelvis, surgical procedures included surgical resections only (n=33), surgical resection with biological (n=5) or mega-prosthetic reconstruction (n=45). QOL was assessed by the Short Form 36, sports activity levels by the UCLA and Tegner activity score (TAS). The association of QOL and Sports scores was calculated by a linear regression model (adjusted for potential confounders gender, age of surgery, followup age, surgical methods and surgical revisions).

Results: In the long-term followup 84% patients (70pts) were performing athletic activity regularly. Mean SF36 physical/psychological sum scores were $49\pm 9/54\pm 7$. Mean UCLA, TAS, modified weighted activity scores were $6.3\pm 2.2/4.0\pm 1.5/5.5\pm 6.2$. The estimated coefficient for UCLA and TAS and physiological sum scale of SF36 were 0.105 ($p=.033$), 0.176 ($p=.002$) respectively.

Conclusions: Sports activity levels (UCLA, TAS) showed an independent positive association with psychological sum score of SF36. These results raise the question to which extent sports ought to be used in survivors of malignant bone tumors to improve QOL.