

# When your ankle becomes a knee - a clinical study on long-term functional outcome and quality of life with a rotationplasty after resection of malignant limb tumors

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## Abstract

Background Increasing numbers of patients surviving malignant bone tumors around the knee joint have led to an increasing importance to investigate long-term results. This study assessed the long-term results of rotationplasty after resection of malignant bone tumors regarding functional outcome and quality of life to allow better comparison with other treatment options in bone cancer treatment. Procedure 60 participants who underwent rotationplasty due to bone cancer took part in this multicentric questionnaire-based study. The long-term functional outcome was measured by the Musculoskeletal tumor society score (MSTS) and the Tegner activity level scale. The health-related quality of life (HRQL) was assessed by using the Short Form Health Survey (SF-36). Results Patients treated with rotationplasty (median follow-up of 22 years, range 10-47 years) regained a high level of activity (median MSTS score of 24). Even a return to high level sports was possible (mean Tegner activity level scale of 4). Duration of follow-up did not influence the functional outcome. HRQL scores were comparable to the general German population. Concerns of psychological problems due to the unusual appearance of the rotated foot have not been confirmed. Conclusion Rotationplasty can be a good alternative to endoprosthetic replacement or amputation, either as primary surgery or as a salvage procedure. Especially for growing children and very active patients rotationplasty should be considered.

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