

## **Total humeral prosthetic reconstruction for bone tumors. A report of 14 cases.**

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**Background:** Resection and reconstruction of the entire humerus for primary and secondary tumors is a rare but reliable option for limb salvage.

**Purposes.** The purposes of this study were (1) to assess the longevity of total humerus prostheses in those patients who survived their disease; (2) to review the complications associated with this prosthesis; and (3) to assess the Musculoskeletal Tumor Society functional score in survivors.

**Patients and Methods:** We present our experience with reconstruction in such cases using a total humeral endoprosthesis in 14 patients (five male and nine female) with a mean age of 36 years (7 to 78). We assessed the complications, the oncological and functional outcomes and implant survival. Surgery was performed between December 1995 and November 2013. Istological diagnosis were osteosarcoma and chondrosarcoma in five patients, Ewing's sarcoma in two and metastases and Gorham disease in one.

**Results:** Once a patient that died a 4 months is excluded the mean follow-up was 94 months (10 to 307) for all patients. There were: one local recurrence (7%) and one deep infection (7%). Ten patients were alive at time of last follow-up. The mean Musculoskeletal Tumor Society score for the survivors was 22 (73%; 16 to 23).

**Conclusion:** The use of a total humerus endoprosthetic replacement in the treatment of malignant tumours of bone is oncologically safe; it gives consistent and predictable results with low rates of complication.