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## The Outcome of Total Humeral Endoprosthetic Reconstruction for Bone Tumours

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**Aim of the work:** To evaluate the functional and oncological outcome of total humeral endoprosthetic reconstruction after bone tumor resection.

**Material and Methods:** Twenty six patients (8 males and 18 females) with a mean age of 30.4 years (range, 8.9 to 86 years) were included in this study. Histological diagnosis was osteosarcoma in eleven patients, chondrosarcoma in six, Ewing's sarcoma in four, metastatic carcinoma in three, liposarcoma in one, and giant cell tumor of bone in one remaining patient. Twenty two patients had their total humeral endoprosthetic replacement for primary reconstruction while the remaining four patients received their implants for failed other reconstructive techniques.

**Results:** At a mean followup of 7.4 years (range, 3 months to 25.9 years), eleven patients were alive with no evidence of disease, while eleven of the remaining fifteen died with metastatic disease. Local recurrence was seen in five patients (19.2%) and all eventually died of disease progression. Two patients (7.7%) developed deep periprosthetic infection and both elected to receive prolonged antibiotic suppression with implant retention. According to the Kaplan-Meier survival analysis, the cumulative ten-year implant survival was 91.3%. The mean MSTS functional score at the time of the latest followup was 83.3% (range, 60-93.3%).

**Conclusions:** Total humeral endoprosthetic replacement is a reliable method of reconstruction after tumor resection with excellent long term survival, satisfactory functional outcome, and a low complication rate.

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