

# **RECONSTRUCTION OF LARGE DEFECTS AFTER TUMOUR RESECTION IN PROXIMAL TIBIA WITH MODULAR PROSTHESIS.**

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### **Introduction:**

In limb salvage surgery, tumour resections in proximal tibia leave large osseous defects to solve; among the different reconstruction options, the surgeon must choose one that offers both good functional results and low complication rates.

The purpose of this study is to present the experience in reconstruction of proximal tibial defects after malignant tumour resection using a modular rotating hinge prosthesis in evaluating both functional results and complication rates.

### **Methods:**

Between (2009 – 2014), five (5) cases of malignant tumor resections in proximal tibia have been reconstructed using the METS Modular rotating hinge prosthesis (Stanmore Implants, Elstree, UK). Functional results and complications have been retrospectively reviewed.

Functional results have been evaluated using the MSTS (Revised Musculoskeletal Tumor Society Rating Scale) six months after surgery.

Overall and specific complication rates including infection, superficial and deep wound dehiscence, requirement of full thickness flaps, extensor apparatus disruption or elongation, “low” patella and revision rates have also been assessed.

### **Results:**

Of the five (5) cases, two (2) were osteosarcomas, two (2) were chondrosarcomas and one (1) was a malignant fibrous histiocytoma. With a mean follow up of 27.4 months (12-36), the mean MSTS result measured six months after surgery was 23.4 points.

The overall complication rate of the series was 40%: superficial wound dehiscence was present in one case, deep wound dehiscence that required a gastrocnemius rotational flap for coverage was present in one case, elongation of extensor apparatus and “low” patella were present in 2 cases, no cases of extensor apparatus disruption and no deep infection. There were no revisions at the end of follow up which was limited by an overall mortality rate of 60% (3 cases) due to metastatic disease.

### **Discussion:**

In the institution department tumours of the proximal tibia were reconstructed using customized APC (allograft-prosthesis composite). Concerned by the high complication rates of APC, as an alternative, modular prosthesis has been used during recent years in the department. These implants offer the known versatility advantages of modularity, and they are found to require a shorter surgical time and a less demanding technique.

