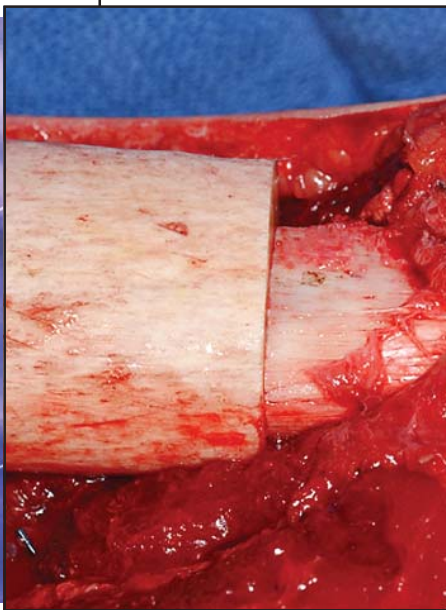


# GRAFTJACKET® Acellular Periosteum Replacement Scaffold Use of a Periosteal Replacement Scaffold for the Repair of Allograft / Host Junctions in Tumor Surgery

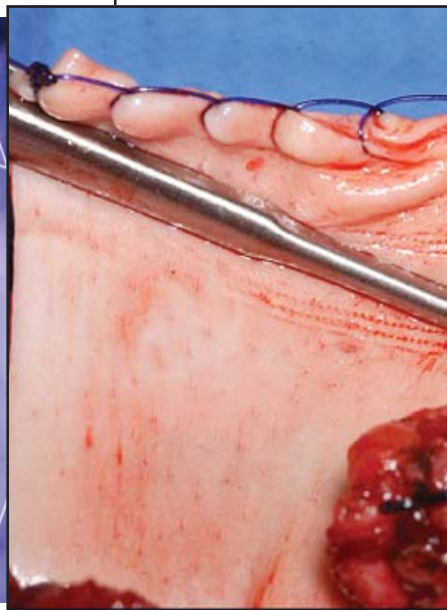
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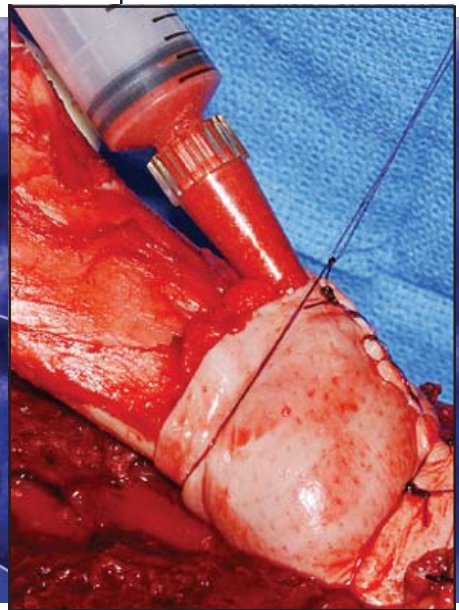
Example of Allograft/Host  
Junction



Example of Circumferential  
"Wrap"



Example of the "Wrap" in  
place over defect



## INTRODUCTION

Bone grafting is frequently used to assist in reconstruction of bone defects following limb salvage procedures. These defects can be quite large and sometimes require the use of bulk allograft material. Healing of the allograft/host junction can often be problematic. This report reviews the technique and early radiographic outcome utilizing a periosteum replacement scaffold to aid in the repair of an allograft/host junction.

## PATIENT PROFILE

The patient is a 43 year-old male diagnosed with neurofibrosarcoma of the right femur, requiring resection and reconstruction utilizing an intercalary allograft.

## SITE PREPARATION

*En bloc* resection of the entire femoral diaphysis was performed with wide margins.

## SURGICAL METHOD

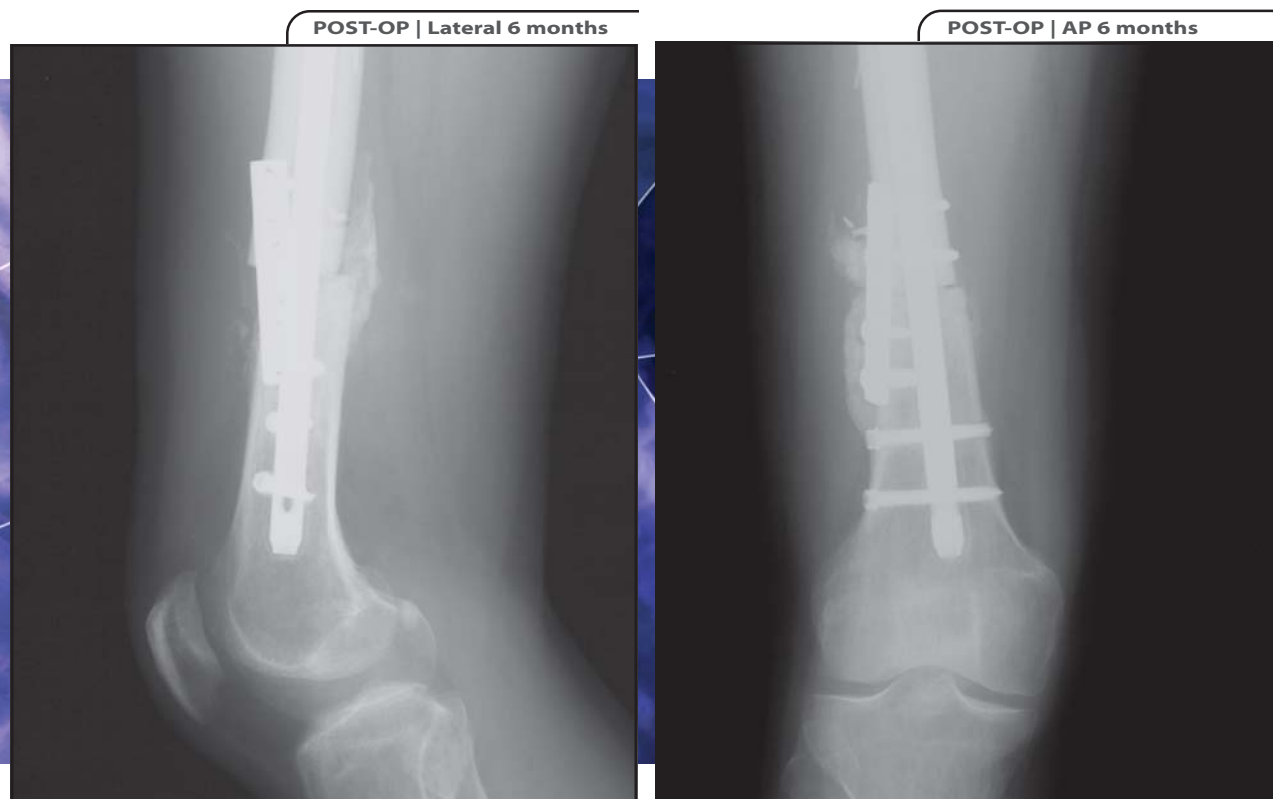
Pre-measured distal femoral allograft was prepared on the back table and sized to confirm restoration of leg length. A femoral nail was utilized to stabilize the intercalary allograft, along with the placement of de-rotation plates at the proximal and distal graft/host junctions, to control rotation. Two 5x10cm pieces of the GRAFTJACKET® scaffold were connected utilizing PDS sutures, and wrapped circumferentially with care to avoid the neurovascular bundle.

A running suture was utilized to create a tube-like construct over the allograft/host junction. A purse-string suture was placed

above and below the junction, and the membrane covered the underlying composite cancellous bone and marrow aspirate blended with ALLOMATRIX® Injectable Bone Graft.

### POST-OPERATIVE COURSE

The patient underwent radiographic review to determine location of grafted bone immediately post-op as a baseline. Since the graft composite is radiolucent, there are no visible signs of the material in the early post-op period. Radiographs confirmed progressive callus formation with no migration of the graft material. Evidence of callus across the



junction was clearly visible at approximately six months post-op. There were no peri-operative complications, no wound infections or drainage.

### DISCUSSION

Healing of allograft/host junctions is a difficult problem for orthopaedic oncologists to manage. Migration and resorption of graft material can be mitigated by the use of a periosteal replacement scaffold and may significantly improve outcomes. Further study is required to confirm efficacy of this technique in a broad range of patients.



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Covered by one or more of the following patents. US Patents 4,865,871, 5,024,830, 5,336,616. SK 032-103 Rev. 02.04