The Effectiveness Of Novel Equinus Prevention Splinting Technique For Use In Patients With Ilizarov External Fixator

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INTRODUCTION:
Equinus deformity is commonly seen in tibial lengthening procedures or improper immobilization, if left untreated, will lead to inadequate ankle joint dorsiflexion, which would alter gait mechanics leading to inefficient gait. It would also subject the foot to abnormal stresses that would lead to chronic ankle pain, foot callosities, ulcerations or midfoot collapse.

MATERIALS & METHODS:
We developed a splinting technique, which is applied onto Ilizarov external fixator that work well as a static splint or static progressive splint. (Figure 1)

53 patients were recruited; they were then grouped into the prophylactic group (29 patients) and treatment group (24 patients). Patients in the prophylactic group had no equinus to begin with and the treatment group had equinus to begin with. All patients were under physiotherapist follow up and were given a patient directed protocol to be followed. Ankle range of motion, AOFAS score and complications associated with the splinting technique were assessed during follow up visits.

RESULTS:
None of the patients in the prophylactic group developed equinus deformity at the end of study. 58.3 % of patients in the treatment group achieved plantigrade foot at the end of study, and all patients had improvement in ankle dorsiflexion of mean 29.6 degrees (range 10-50 degrees). 5 patients (20.8%) in this treatment group developed complication (crushed talus). (Figure 2)