



Division of Orthopaedic Surgery

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**Title of Project: RADIOGRAPHICAL ANALYSIS OF ALLOGENOUS FIBULAR
STRUT GRAFT USAGE IN ANTERIOR CERVICAL CORPECTOMY AND
RECONSTRUCTION**



Abstract

Introduction: The published body of knowledge within spinal surgery specifies that the performance of cervical corpectomy and reconstruction surgery is well established within the surgical discipline. Clinical observations suggested the hypothesis that an increased usage of this procedure by spinal surgeons, as evidenced by a marked upsurge in anterior cervical corpectomy and reconstructions has important long-term significance.

Aim: To investigate the radiographical outcomes of allogeneous fibular strut grafts post anterior cervical corpectomy and reconstruction procedures

Methods: A descriptive retrospective study using a purposive sampling technique was applied to select the population for this research study. All 29 adult patients who underwent an anterior cervical corpectomy and reconstruction using an allogeneous fibular strut graft, at Charlotte Maxeke Johannesburg Academic Hospital between 01 January 2012 and 31 December 2019 were sampled for this study. The spinal surgery registry at CMJAH was the primary source used for data collection for patients who underwent this spinal surgery (anterior cervical corpectomy and reconstruction) using the allogeneous fibular strut grafts during the study period stipulated. These radiographs were independently reviewed by the researcher using a prepopulated checklist.

Results: The allogeneous fibular strut graft displayed encouraging biomechanical characteristics with low rates of lucency and subsidence. This study suggested that allogeneous fibular strut grafts used in anterior cervical corpectomy and reconstruction procedures whether single level corpectomy or 2 level corpectomy is both a safe, feasible and possibly a sustainable alternative grafting material in the spinal surgical sphere.

Conclusion: This research study has endeavoured to describe the novel initial investigation into using allogeneous fibular strut grafts as a viable and safe grafting material in anterior cervical corpectomy and reconstruction procedures in the South African spinal surgical sphere.