Introduction: The standard surgical correction for pseudoarthrosis following anterior cervical decompression and fusion (ACDF) is a posterior fusion with various types of instrumentation versus anterior revision. The purpose of this abstract is to ascertain the safety and efficacy of treating an ACDF pseudoarthrosis by conversion to cervical artificial disc replacement. The Prestige ST implant was selected due to its anterior phalanges allowing immediate secure screw fixation into the vertebral bodies. The phalanges also prevent heterotopic bone formation.

Methods: Clinical data from every patient undergoing removal of an anterior cervical plate and fibrous pseudoarthrosis with redo decompression followed by implantation of a Prestige ST cervical artificial disc (CADR) were evaluated. Pseudoarthrosis was diagnosed on flexion/extension x-rays.

Results: Eight patients with previous multi-level cervical fusion and single-level pseudoarthrosis elected to proceed with conversion of pseudoarthrosis to CADR. The surgical technique will be described. There were no surgical complications in terms of neurologic deficits, hematoma or implant complications.

Conclusion: This preliminary report indicates cervical pseudoarthrosis can be converted to a cervical artificial disc with safety and efficacy.