Introduction: The purpose of this abstract is to describe a modification of the Prestige ST implant to allow multi-level implantation in any patient. The second purpose is to report the safety and efficacy of this modification. The Prestige ST implant has anterior phalanges with screw fixation into the superior and inferior vertebral body that requires a minimum 15mm of vertebral body height to allow multi-level implantation. Modification dovetails the phalanges requiring only 8mm of vertebral body for multi-level implantation. Utilizing the Prestige ST implant in a multi-level fashion is an FDA off-label use of the device. There are currently two cervical FDA approved artificial discs. Each artificial disc has unique characteristics. The ProDisc-C implant allows multi-level implantation without modification. The Prestige does not allow multilevel implantation in most patients.

Methods: Every patient from 2007 to April 2010 who underwent a multi-level Prestige ST implant was evaluated and subdivided into groups with (two levels = 10 patients, three levels = 2 patients) and without (two-level = 28 patients, three-level = 2 patients) modification. There was no significant difference in the demographics between the groups. The following illustration demonstrates the modification. Modification of the Prestige ST implant is achieved with a high-speed Dremel saw in approximately three minutes followed by smoothing of the edges. The implant is modified such that the locking screw can still be utilized. Our experience is that approximately 40% of male patients and zero percent of female patients can undergo a multi-level procedure without modifying the Prestige implant.

Results: In both groups, range of motion averaged 8º at each implant level. There were no implant problems in either group.
Conclusions: Our experience indicates modifying the Prestige ST implant allows for use in a multi-level fashion in all patients who have a vertebral body height of at least 8mm. The clinical results of patients with a modified Prestige ST implant are equal to the patients with non-modified implants.