A Prospective Study on the Use of Hip Arthroscopy Distraction Without a Perineal Post

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Summary:
The use of the Trendelenburg position during hip arthroscopy allows for safe hip distraction without a perineal post, thereby eliminating groin-related soft tissue and nerve complications.

Abstract:
Introduction: Hip arthroscopy has traditionally been performed with a perineal post in order to allow for hip distraction during surgery. The use of a perineal post has resulted in various groin-related complications, including pudendal nerve neurapraxias, vaginal tears, and scrotal necrosis. The purpose of this study was to assess the safety of a new technique for hip distraction during hip arthroscopy without the use of a perineal post.

Methods: We prospectively analyzed a consecutive cohort of 750 operated patients presenting with hip pain to our dedicated hip preservation clinic. Demographic variables, diagnosis, lateral center edge (LCE) angle, and Beighton hypermobility score were recorded for each patient. In the operating room, the patient’s feet were placed in traction boots in a specifically designed distraction set-up and the operative table was placed in Trendelenburg. Using this technique, enough resistance is created by gravity and friction between the patient’s body and the bed to allow for successful hip distraction without the need for a perineal post. The degrees of Trendelenburg as well as the distraction force were recorded for 242 hips in 219 patients.

Results: The average angle of Trendelenburg used among all patients was 10 ± 2 degrees. The average initial distraction force necessary was 91 ± 29 lbs, which decreased to 66 ± 24 lbs by 30 minutes after traction initiation (p < 0.0001). The most important variables in determining initial force in this cohort of patients were (in order of importance) gender (p < 0.0001), weight (p < 0.0001), diagnosis (p < 0.01), and inclination angle (p = 0.033). These four variables were also significant predictors of distraction force seen at 30 minutes following traction initiation. No groin-related complications occurred in the entire cohort of patients, including soft tissue or nerve-related complications.

Conclusions: The use of the Trendelenburg position during hip arthroscopy allows for safe hip distraction without a perineal post, thereby eliminating groin-related soft tissue and nerve complications. Certain patient variables can be used to estimate the initial distraction force and inclination angle when using this method.