

Sports Medicine Evidence Matters

Research Bulletin

The Stryker PostFree Distraction System creates adequate distraction space in the central compartment to perform hip arthroscopy

Top-Level Summary:

In hip arthroscopy traction is applied to the patient’s lower limb while holding the pelvis and torso fixed. The amount of distraction achieved is initially determined by the surgeon visually using the fluoroscope, and is typically described as 10 to 12 mm between the lateral aspect of the acetabulum and the femoral head.^{1,2,3,4} This analysis demonstrates that the **Stryker Hip Distraction System can create adequate distraction space in the central compartment to perform hip arthroscopy and is similar to the Smith & Nephew Hip Distraction System.**

Methods:

The comparison of the Stryker Hip Distraction (SYK) System and the Smith & Nephew Hip Distraction (SNN) System against the lower bound target of 10 mm has been accomplished by 1) assessment in a series of 13 laboratory sessions with the SYK System by surgeons experienced with hip arthroscopy, and 2) a direct comparison of 3 cadaveric specimen with both the SYK and SNN Systems. Distraction was assessed once per cadaveric hip, followed by measurement of distraction space using fluoroscopic images (Fig. 1).⁵

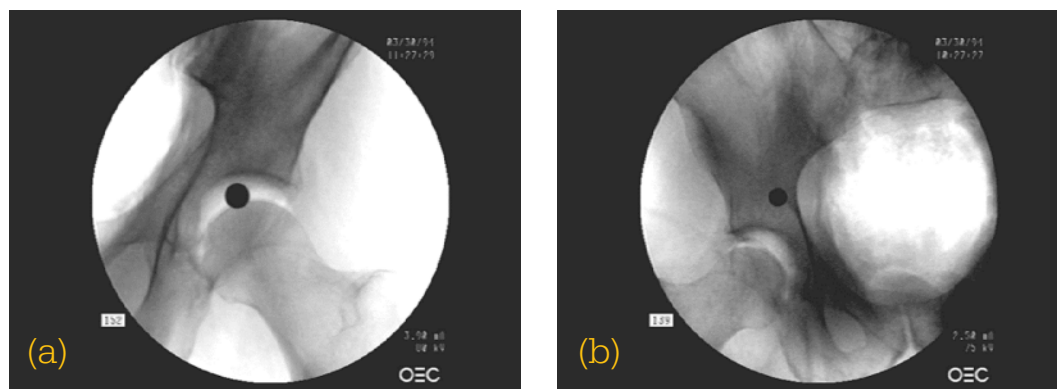


Figure 1: Fluoroscopic views showing distracted hips using the (a) SYK and (b) SNN systems. A 12.7 mm diameter ball bearing appears in every shot to reference dimensions.

Results:

1) In all 13 laboratory sessions the surgeons concluded that the distraction was adequate and comparable to their current distraction in their surgery. 2) The average distracted distances measured were greater than the target of 10 mm for both the SYK and SNN systems (Table 1).⁵

Table 1: Summary of one-sample, one-sided t-tests comparing the pooled distracted distances for the SYK and SNN systems against the literature lower bound target of 10 mm.

System	N	Mean, mm	StDev, mm	95% Lower Bound	P
SYK	9	12.01	1.65	10.99	0.003
SNN	9	12.19	0.46	11.90	0.000

Clinical Relevance:

The use of Trendelenburg position and the SYK System allows for 10 mm or more of distraction in a hip joint without a perineal post at 95% confidence, consistent with the stated need in the literature (n = 3, mean 12.01 mm, P = 0.003).

References:

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3. BT Kelly, et al, "Arthroscopic labral repair in the hip: surgical technique and review of the literature," *Arthroscopy*. 2005; 21: 1496-1504.
4. MT Clarke, et al, "Hip arthroscopy: complications in 1054 cases," *Clin Ortho Relat Res.* 2003: 84-88.
5. Stryker DHD13364 2017 Rev A

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1000902434 Rev A
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