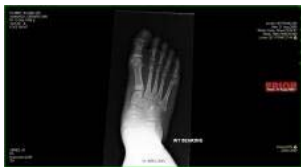


The Grice-Green Procedure Revisited: Use of an extra-articular bone block to control excessive STJ pronation in pediatric flatfoot reconstruction.

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Study Group Pre Op AP



Study Group Pre Op Lateral



Control Group Pre Op Lateral



Control Group Pre Op AP

INTRODUCTION

The purpose of this study was to assess the clinical and radiographic results of pediatric flatfoot reconstruction utilizing the Grice-Green procedure to control the excessive pronatory motion of the subtalar joint. Clinical and radiographic results were compared to pediatric flatfoot reconstructions using a subtalar joint arthroereisis for pronatory control.

MATERIALS AND METHODS

In a comparative study there were two groups consisting of 22 patients (22 feet). The control group consisted of twenty patients which underwent subtalar joint arthroereisis and were retrospectively analyzed. The study group consisted of two patients which underwent the Grice-Green procedure in prospective analysis. All patients in each group also underwent flatfoot reconstruction consisting of: Tendo Achilles Lengthening, Evans Calcaneal Osteotomy, Plication of the Spring Ligament, advancement of the Posterior Tibial Tendon, and Flexor Digitorum Longus transfer. In addition, seven patients in the control group and one patient in the study group required a Medial Calcaneal Slide Osteotomy.



Study Group Post Op AP



Control Group Post Op AP



Study Group Post Op Lateral



Control Group Post Op Lateral

Study - Pre-op - Post-op -
Meary's Angle - 40.5° - 1° -
Kites Angle - 39.5° - 23.5° -
Angle of Hibbs - 165.5° - 137.5° -
Calcaneal Inclination - 5.5° - 25.5° -

Control - Pre-op - Post-op -
Meary's Angle - 37° - 0.5° -
Kites Angle - 39° - 19.5° -
Angle of Hibbs - 159° - 139.5° -
Calcaneal Inclination - 8.5° - 22° -

RESULTS

Average correction was established with pre and post operative comparison.

Average Correction - Study - Control -
Meary's Angle - 39.5° - 36.5° -
Kites' Angle - 16° - 19.5° -
Angle of Hibbs - 28° - 20° -
Calcaneal Inclination - 20° - 13.5° -

Clinical evaluation consisted of observation of the child in a weightbearing position, heel raise, and gait evaluation. There was noted restoration of the medial column, ability to perform single leg heel raises, and pain free propulsive gait in both patient populations.

CONCLUSION

Clinic results were contrasted with comparable flatfoot reconstructions performed utilizing a Subtalar joint arthroereisis implant. Comparison criteria included both clinical and radiographic analysis. While there was no statistical significance for this patient population, we found the Grice-Green procedure in this particular patient subset to provide pronation control comparable to Subtalar joint implant arthroereisis.