Early results of stretching cast treatment with foot locking for symptomatic flat feet with calf muscle contracture in children

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Disclosure

- Prasad Gourineni has a potential conflict with this presentation due to
- Own G 2 Healthcare, LLC that markets calf stretching devices.
Introduction

- Flatfeet are very common.
- Symptomatic flatfeet usually have equinus contracture.¹
- Feet locked in supination increase the success of stretching.²
Methods

- 27 children with 36 symptomatic flatfeet had equinus of > 30° (Average 43°).
- Stretching casts with maximal dorsiflexion with midfoot locked in full supination of the forefoot.
- Weight bearing as tolerated.
Casting technique

- Prone position, knee flexed to 90°
- Forefoot supinated maximally to lock the midtarsal joints
- Ankle is maximally dorsiflexed and fixed in a short leg cast
- The bottom of the cast made flat for weight bearing with a wedge built under the medial forefoot
Equinus measured with foot locking and knee extension⁴
Cast in dorsiflexion of the ankle in full supination of the forefoot
Results

- All contractures corrected with 1-2 casts.
- 35 of 36 feet were asymptomatic at average follow-up of 7 months (3-21).
- One foot with superficial ulcer over the lateral aspect of 5th metatarsal head.
Recurrent equinus

- 10 feet (28%).
- 9/10 improved with stretching alone.
- 1 chose surgery elsewhere
Discussion

- Weight bearing supination casts improved severe equinus quickly.
- Recurrence equinus occurred in 28% but the deformity was mild.
- Stretching of equinus relieved pain reliably, but did not change the flattened arch.
Conclusion

- Midfoot locking and weight bearing casting seemed to improve equinus stretching.
References


2. MANN RA, COUGHLIN MJ. *Surgery o the foot and Ankle*. 1993