Journal of Foot and Ankle Research



Keynote presentation

Open Access

Advances in biomechanics of posterior tibial tendon dysfunction and flatfoot deformity

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from 1st Congress of the International Foot & Ankle Biomechanics (i-FAB) community Bologna, Italy. 4–6 September 2008

Published: 26 September 2008

Journal of Foot and Ankle Research 2008, I (Suppl 1):K1 doi:10.1186/1757-1146-1-S1-K1

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Introduction

The objective of this presentation is to highlight the clinical and laboratory-based research related to posterior tibial tendon dysfunction (PTTD).

Methods and results

- Defining the flatfoot: clinical, foot pressure, radiologic
- Critical evaluation of flatfoot deformity: in vitro
- How often does the flatfoot occur?
- Normal arch development
- Why is the flatfoot a problem?
- Why does the flatfoot occur?
- O 1. Effects of weightbearing [1]
- O 2. Lost of static support [2]
- O 3. Loss of dynamic support [3]
- O 4. Anatomic predisposition
- O 5. Joint subluxation
- Causes of flatfoot in adults
- O 1. Posterior tibial tendon dysfunction (PTTD)

- O 2. Arthritis: Midfoot, hindfoot, ankle
- O 3. Hypermobile flatfoot
- O 4. Neuropathic arthropathy
- O 5. Fracture malunion
- O 6. Inflammatory arthropathy
- O 7. Peroneal spastic flatfoot
- O 8. Neuromuscular disorder
- O 9. Other
- PTTD etiology
- PT muscle, tendon anatomy
- PT function
- PT muscle activity during gait
- Factors predisposing to PTTD
- O PT gliding resistance
- PT pathoanatomy
- Natural history of PTTD

- PTTD evaluation: symptoms, signs
- Investigative studies
- Gait analysis in PTTD patients
- Simulated walking: Normal, PTTD []
- PTTD treatment
- PTTD treatment results
- Failures, complications

Conclusion

• Current recommendations

Acknowledgements

Kai-Nan An, PhD; Kenton R Kaufman, PhD

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