

Keynote presentation

## Advances in biomechanics of posterior tibial tendon dysfunction and flatfoot deformity

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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?

- 1. Effects of weightbearing [1]

- 2. Lost of static support [2]

- 3. Loss of dynamic support [3]

- 4. Anatomic predisposition

- 5. Joint subluxation

- Causes of flatfoot in adults

- 1. Posterior tibial tendon dysfunction (PTTD)

- 2. Arthritis: Midfoot, hindfoot, ankle

- 3. Hypermobility flatfoot

- 4. Neuropathic arthropathy

- 5. Fracture malunion

- 6. Inflammatory arthropathy

- 7. Peroneal spastic flatfoot

- 8. Neuromuscular disorder

- 9. Other

- PTTD etiology

- PT muscle, tendon anatomy

- PT function

- PT muscle activity during gait

- Factors predisposing to PTTD

- 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

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### References

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