Spring Ligament Repair During Flatfoot Reconstruction: Why it Should be Addressed When Correcting Sagittal Plane Deformities

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Flat Foot Deformity

- Frontal Plane
- Transverse Plane
- Sagittal Plane
PTTD

• Posterior Tibial Tendon

• Is it "dysfunctional"
Pathology

- Spring Ligament

- Attenuation leads to increased force on the posterior tibial tendon.


Spring Ligament

- Static Support of Medial Longitudinal Arch
- Two Distinct Fibers
Calcaneous

Navicular

Talus

superomedial fibers

inferior fibers

Calcaneous
Pathology

- spring ligament abnormality = flatfoot deformity
- Equal importance posterior tibial tendon dysfunction

• Spring Ligament and PT Tendon play essential role in elastic support of joint complex

• Progressive strain on the mid-plantar sling is the most common cause of flatfoot, causing midfoot abduction

Pathology

• Regardless of the etiology, literature is demonstrating the spring ligament is failing and becoming attenuated, needs fixed

• The most important static structure to be repaired for AAFD is the spring ligament.

Posterior Tibial Tendon

- May Still be functioning
Spring Ligament

- Soft tissue structure most open to fail
- TN Joint Deformity

Isolated Spring Ligament Rupture

- Acquired pes planus is due to a failure of the osseoligamentous complex
- Could still perform a single heel rise

Procedure Selection

- Lateral Column Lengthening
- MDCO with FLD Transfer
- Spring Ligament Repair

• Reduces the load

• adding FDL transfer small effect

Arthrodesis
Spring Ligament Repair
Internal Brace™ Spring Ligament Augmentation Repair
Spring Ligament Repair
Spring Ligament Repair
Summary

- Repair needs focused on the stage and type of deformity.
- Talonavicular Joint needs addressed
- Flexible Need to repair Spring Ligament Complex
Thank You