

Feet, Fascia & Functional Movement

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Webinar Series

Week 3 – Foot Function & Fascial Lines

Welcome!

Intro to the Evidence Based Fitness Academy
Leaders in Barefoot Education



How the **Webinar Series** Works

3 Weeks – 60 Minute Lectures

Recorded & Archived

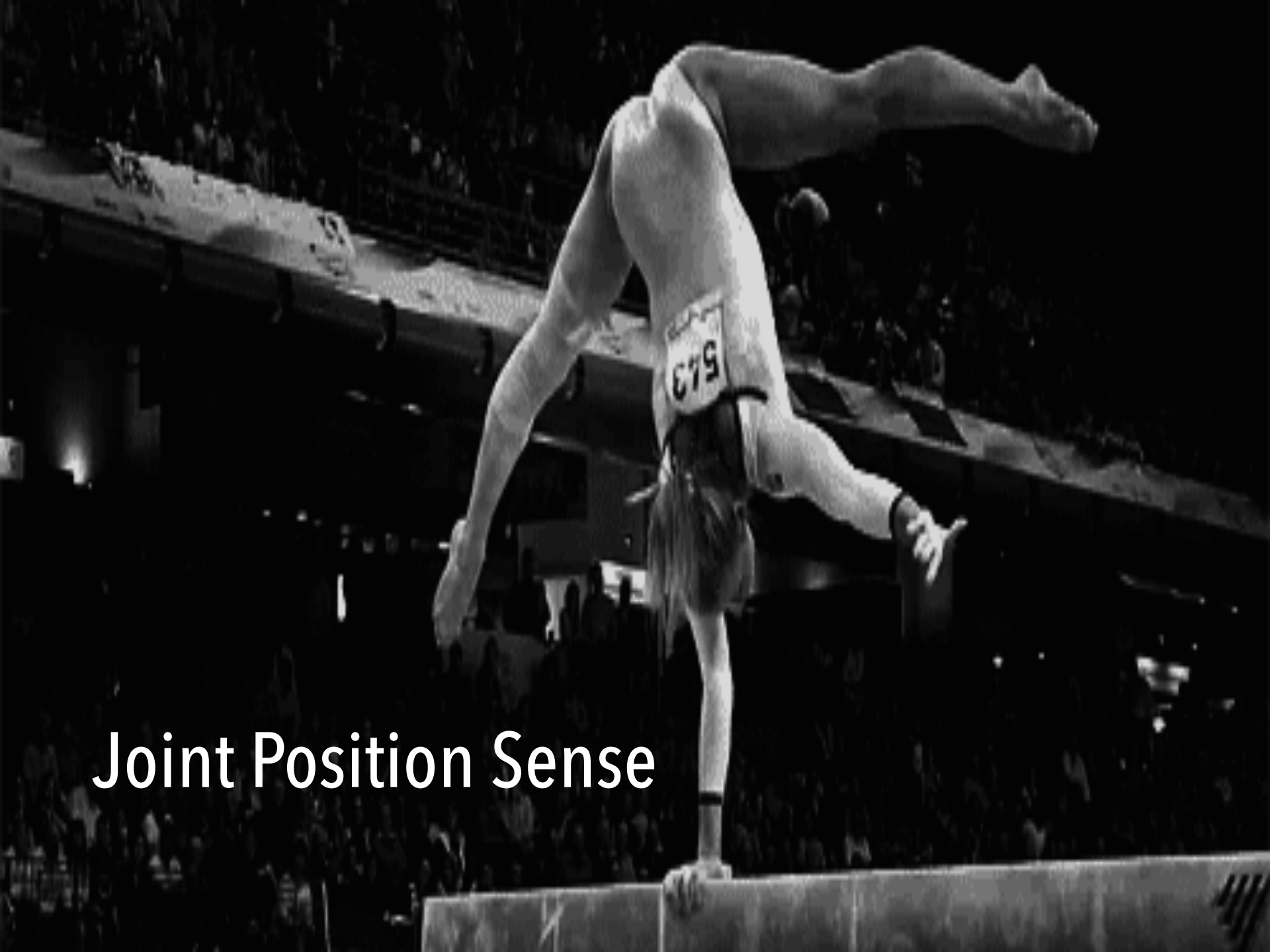
Final Exam for CECs

Materials / Videos

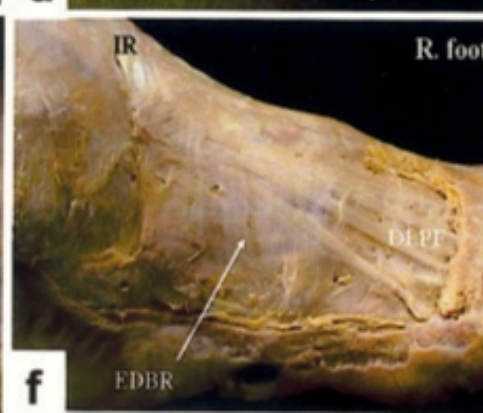
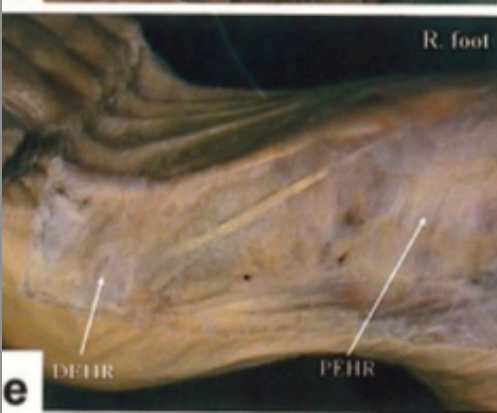
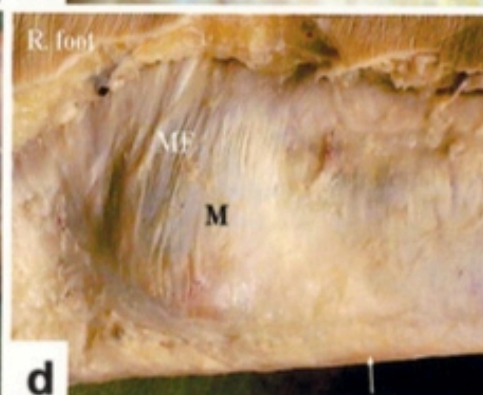
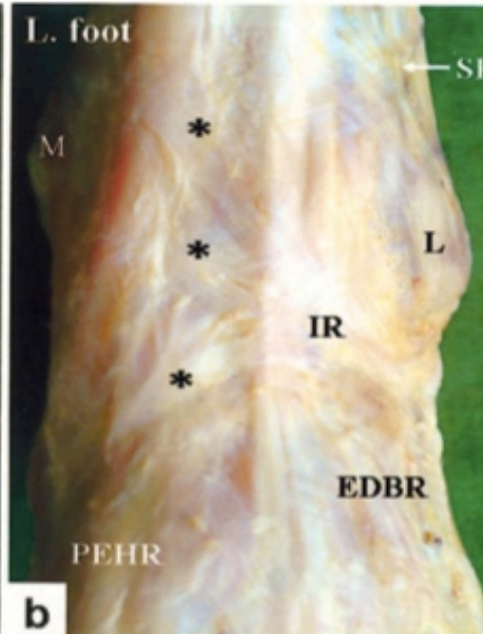
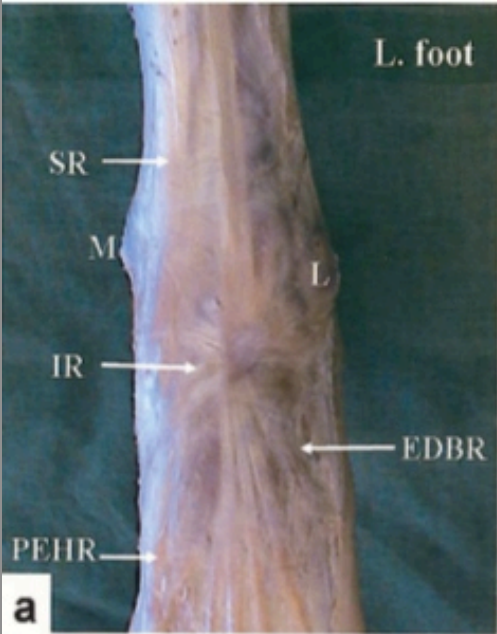
Questions / Polls

Review Week 1

Fascial Tensioning & Joint Stability



Joint Position Sense



Made up of the
neuromyofascial web



Foot to Core
Fascial Tensioning



Hand to Core Fascial Tensioning

Review Week 2

Fascial Elasticity & Movement Efficiency

Our ability to **rhythmically** load and unload
impact is dependent on fascial elasticity

Isometric contractions increases potential energy within the **perimysium** of the muscle fascicles.

Perimysium

Has highest density of myofibroblasts and acts principally to transmit muscle force.

Isometric contractions create tension in the perimysium

Optimizing Elastic Potential

Goal is to remodel fibroblasts and
collagenous fibrous network

In rhythmic movements

- Muscle fiber length changes little / isometric contractions
- Muscle fibers stiffen temporarily while fascia acts like elastic band or yo-yo

Week 3

Foot Function & Fascial Lines



Timing & Foot Function

Foot Contact Facts

GRFs enter foot in $< 50\text{ms}$

Total contact time 300ms (1/3 of a second)

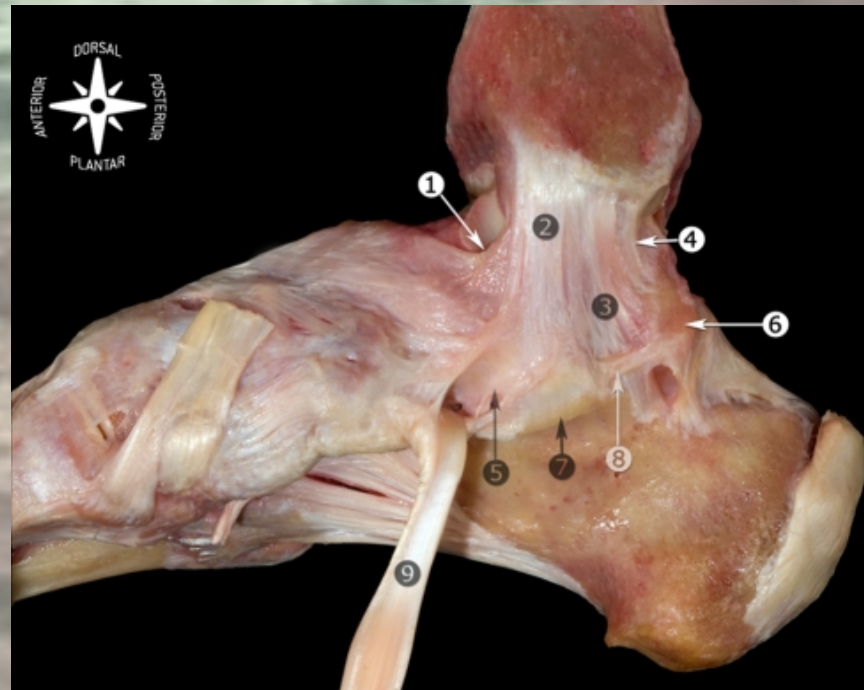
Foot contact 80 – 100 x per minute (running)

For repetitive / rhythmic movements.....



....muscular contractions are not fast enough!

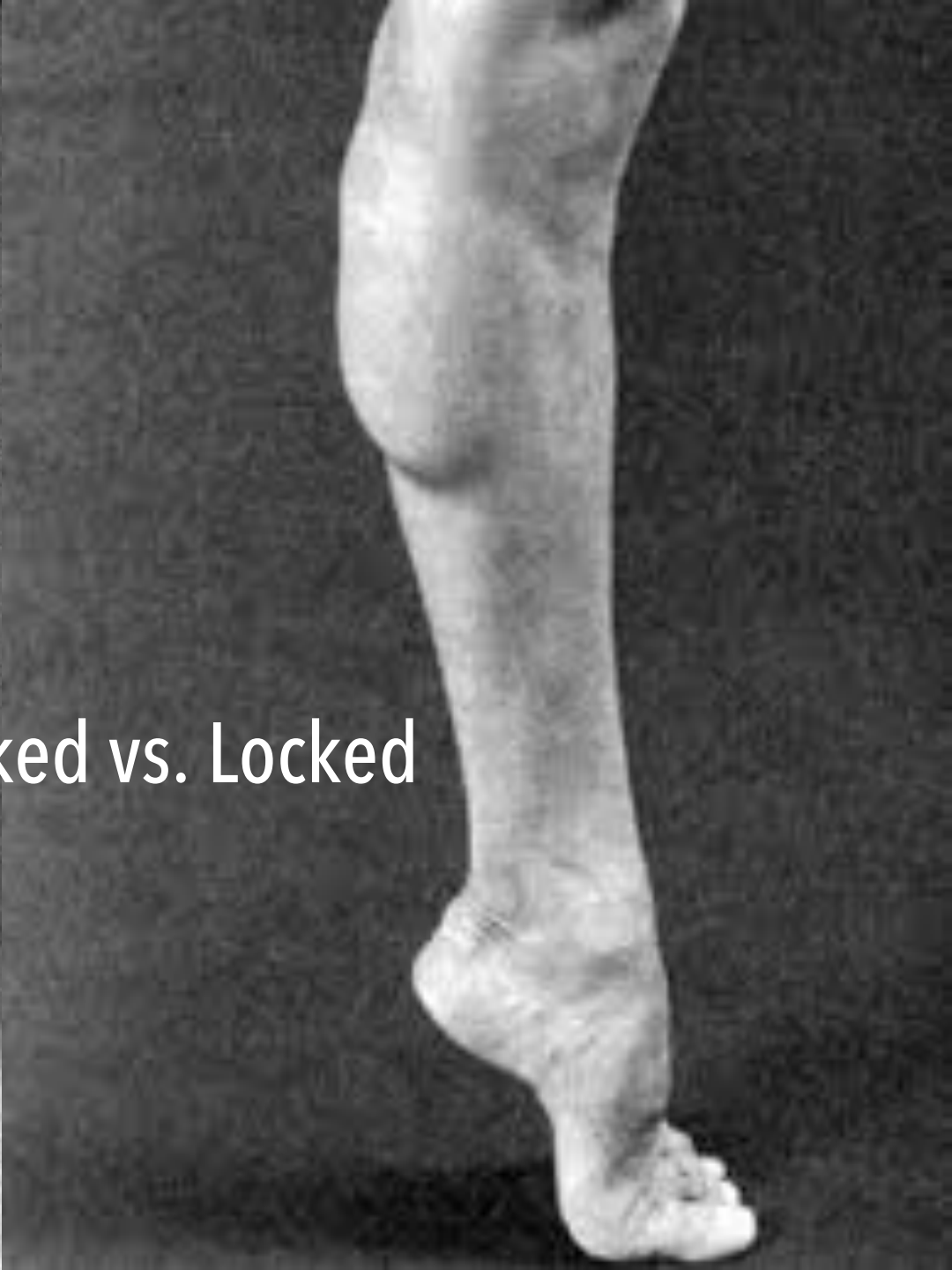
Fascia



Foot Function & Fascial Lines



.....power output

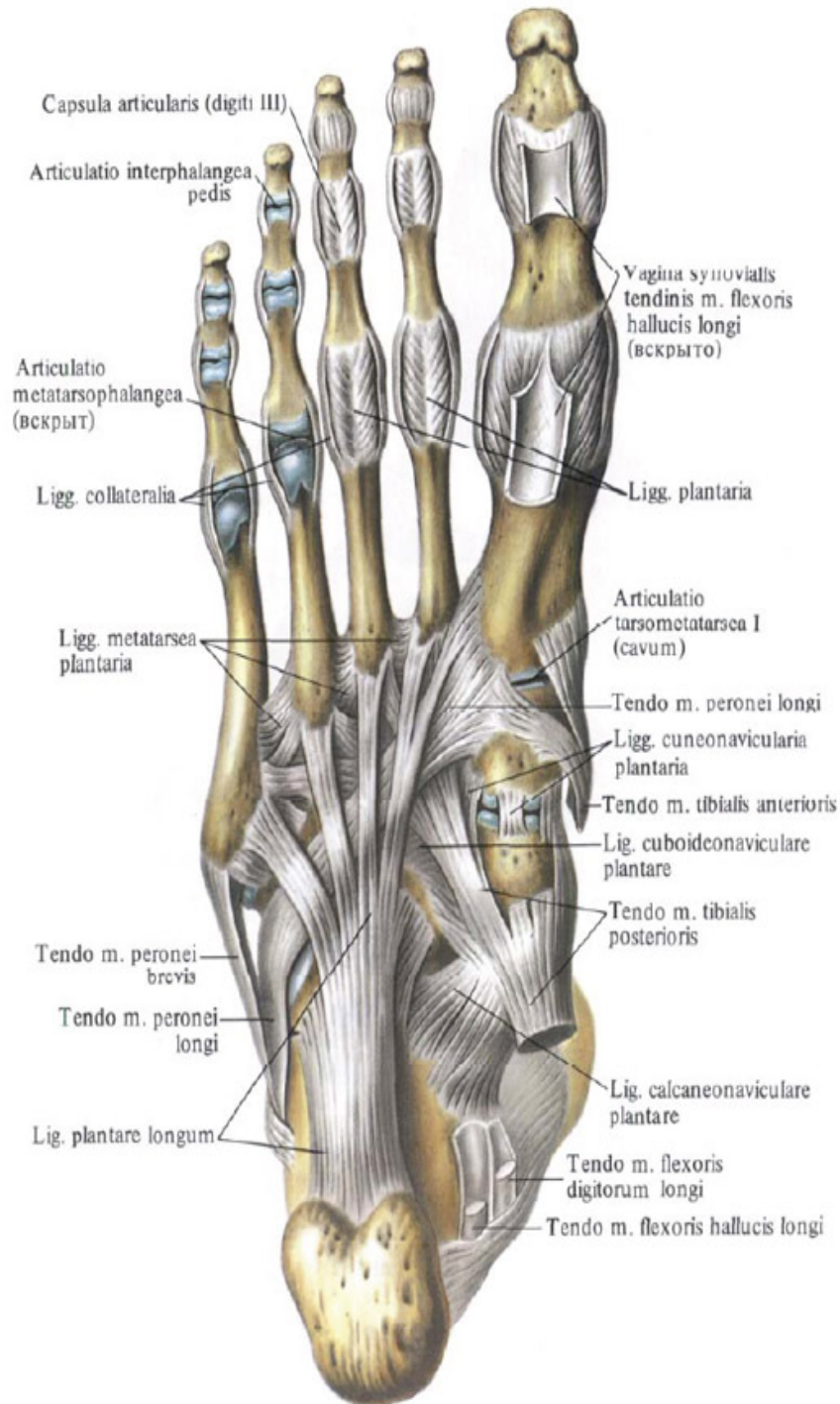


Unlocked vs. Locked

The faster you can lock the foot the faster you get
off the ground (**shorter contact time**)

Posterior Tibialis
Peroneus Longus
Interossei





Posterior Tibialis

- Inserts onto the navicular
- Fans out and has 9 osseous and fascial attachments which includes:
 - every tarsal bone (except the talus)
 - every metatarsal (except the 1st)
 - **peroneus longus tendon**
 - flexor hallucis brevis muscle



Most powerful
foot supinator!



Deep Front Line

FHL, FDL, **Posterior Tibialis** & Anterior Tibialis



Adductors which insert on Ischiopubic Ramus



Continuous with Obturator Fascia to **Pelvic Floor**



Continues up the **Psoas** and QL to the Diaphragm

Peroneus Longus

Lateral aspect of the lower leg

Behind the lateral malleolus

Under the cuboid to

Base of the 1st metatarsal (**90%**)

Medial cuneiform (**10%**).

cuboid groove

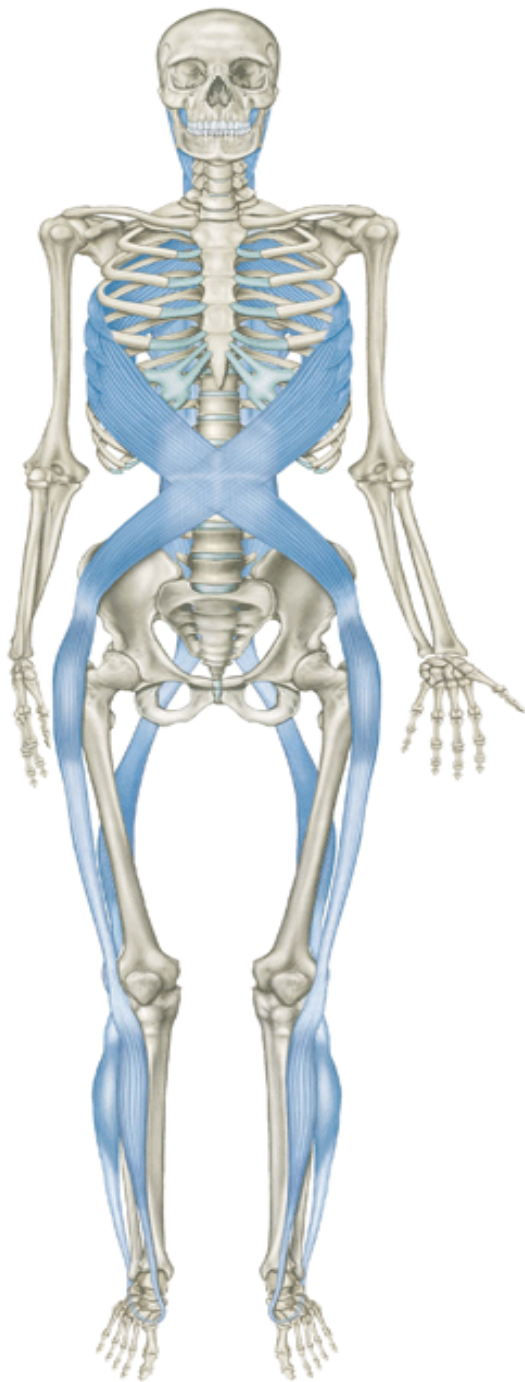
os peroneum



Lateral ankle stabilizer
& 1st ray stabilizer



Spiral Line



Rhombo-serratus structures

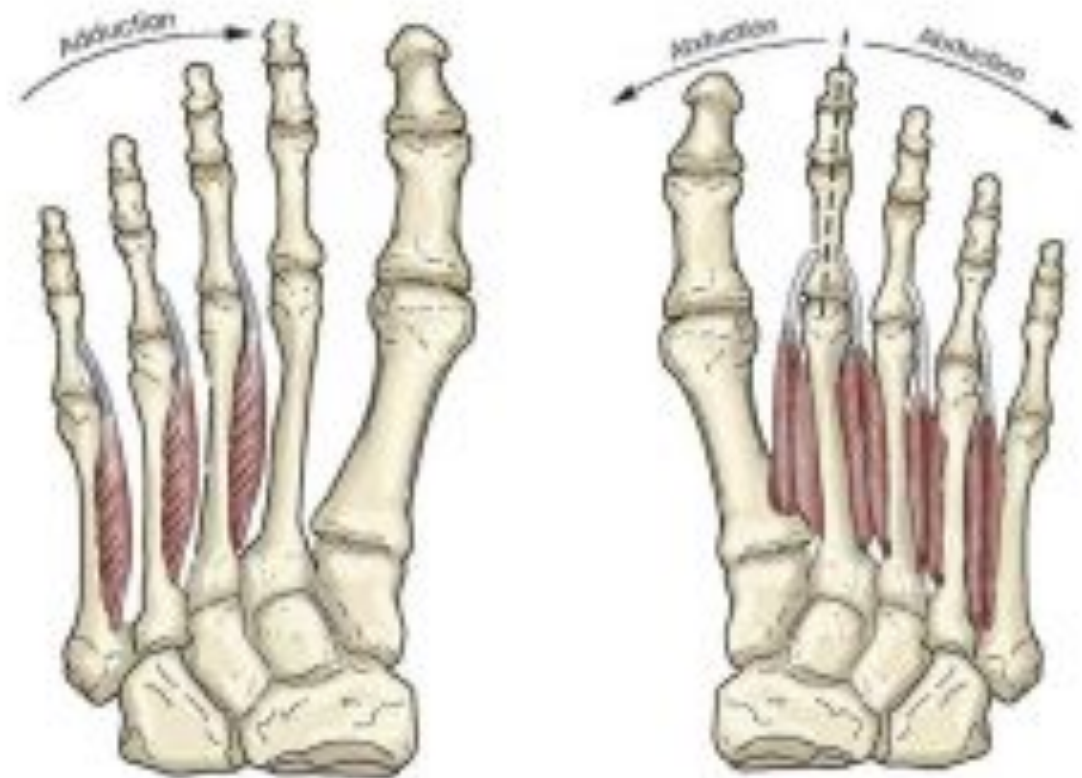


Abdominal obliques.



Tibialis anterior-peroneus longus sling

Interossei



Stabilize MPJs for push-off



Foot Function is built into our **fascial lines**

Plantar Foot: Muscles and Tendons



Layer 1



Layer 2



Layer 3



Layer 4

Superficial



Deep

Midline of the foot

A

Peroneus
longus tendon

Layer 4

Posterior
tibialis tendon





Neuro-fascial cascade between:

- foot to core stability
- medial / lateral ankle stability
- first ray stability
- foot lever / MPJ stability

Future of Movement Programming



Fascial tension and fascial elasticity via fascial lines.

Key Features in Programming

- Barefoot
- Myofascial release work
- PNF / contract-relax stretching
- Isometrics for fascial tensioning
- Short foot / foot to core / hand to core
- Rhythmic movements and end-ROM / bounce
- Low repetitions
- From the ground up movements

Thank you

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www.ebfafitness.com