Feet, Fascia & Functional Movement

Webinar Series
Week 1 – Future of Proprioception Training

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Author to Barefoot Strong Book

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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

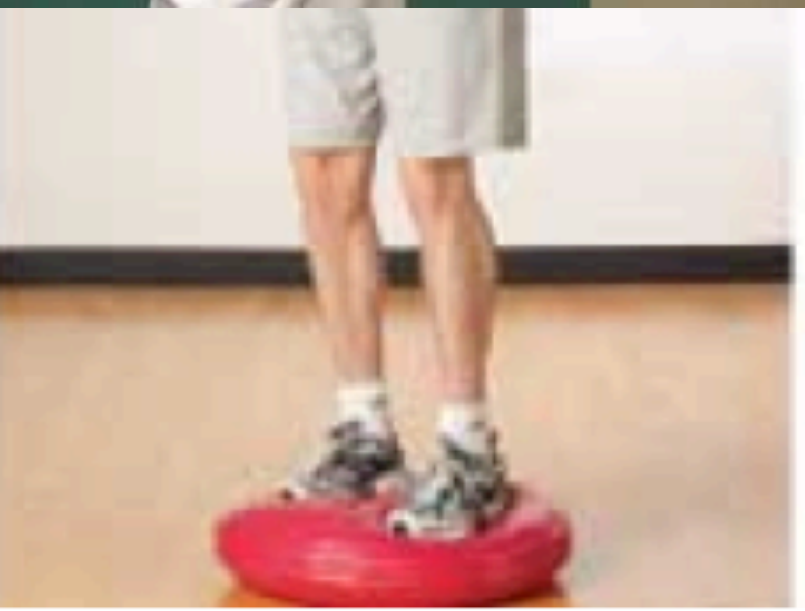
Materials / Videos

Questions / Polls

Week 1

Fascial Tensioning & the Future of Proprioception Training

What comes to mind when you hear the words proprioception training?



Must we associate unstable surfaces with proprioceptive training?

Get ready to challenge your current approach to proprioception training!

What is proprioception?

Proprioception refers to the internal messaging (the nervous system) that drives our movements – often associated with joint position sense.

vs.

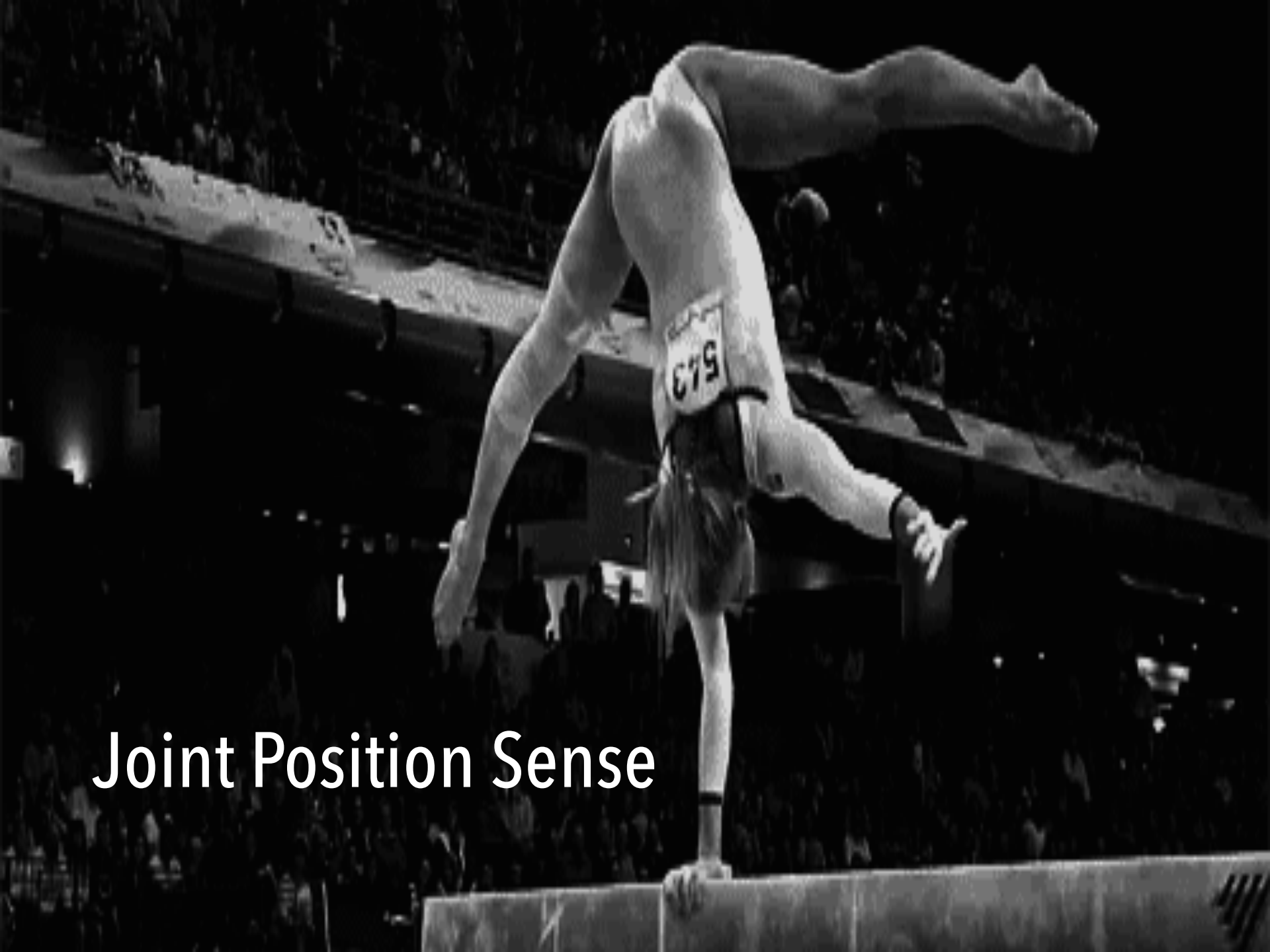
Kinesthetic awareness refers to our ability to navigate space and the awareness of how we move.

Proprioception

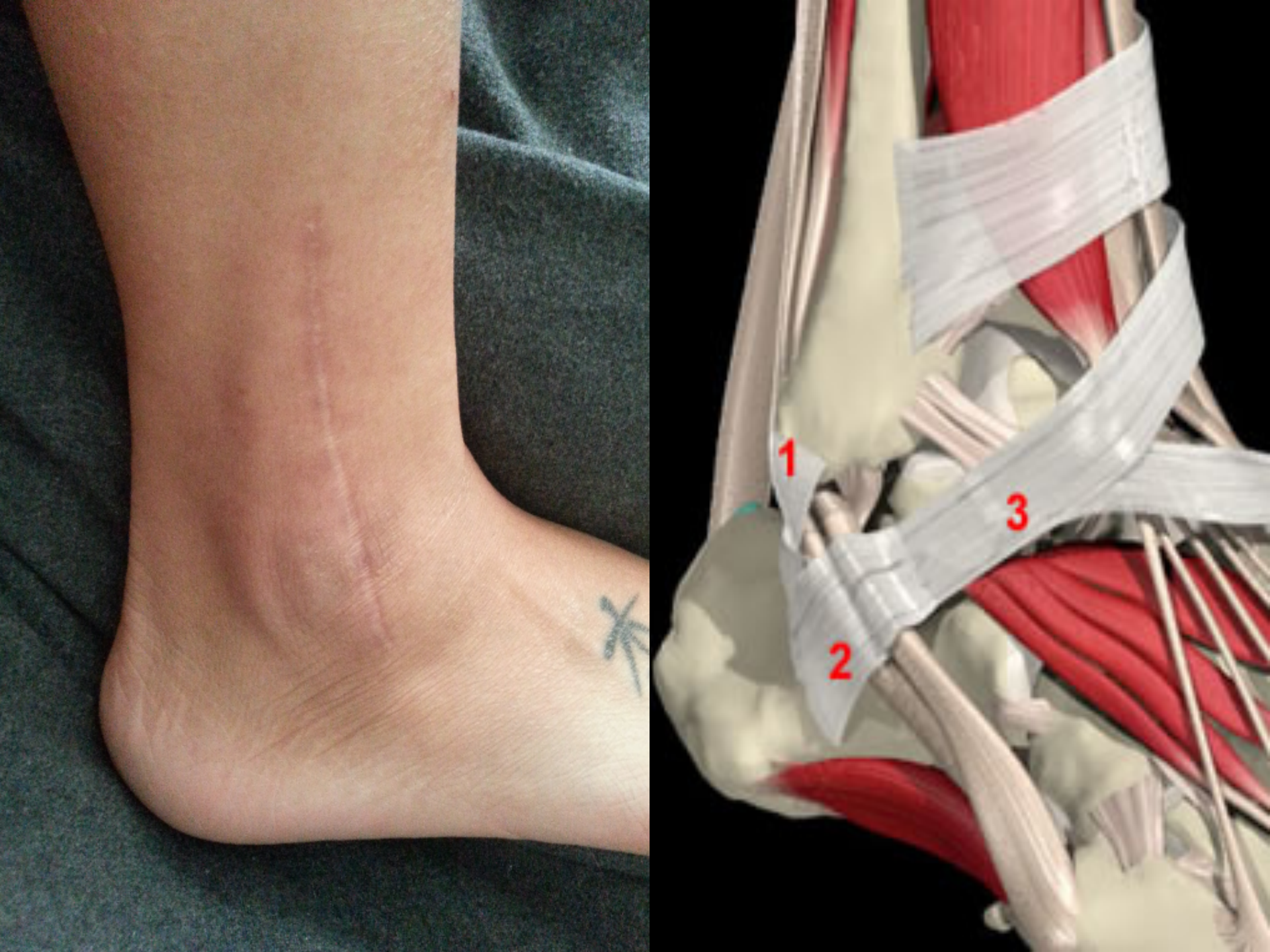

Kinesthetic Awareness

Proprioceptive Awareness

- Joint position sense
- Temperature / pain
- Texture / pressure
- Stretch / tension/ compression
- Vibration



Joint Position Sense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What provides joint position sense?

- Joint capsule
- Ligaments
- Retinaculum
- Fascia
- Myotendon junction
- Skin

All create a nervous system response – but not all responses are the same!

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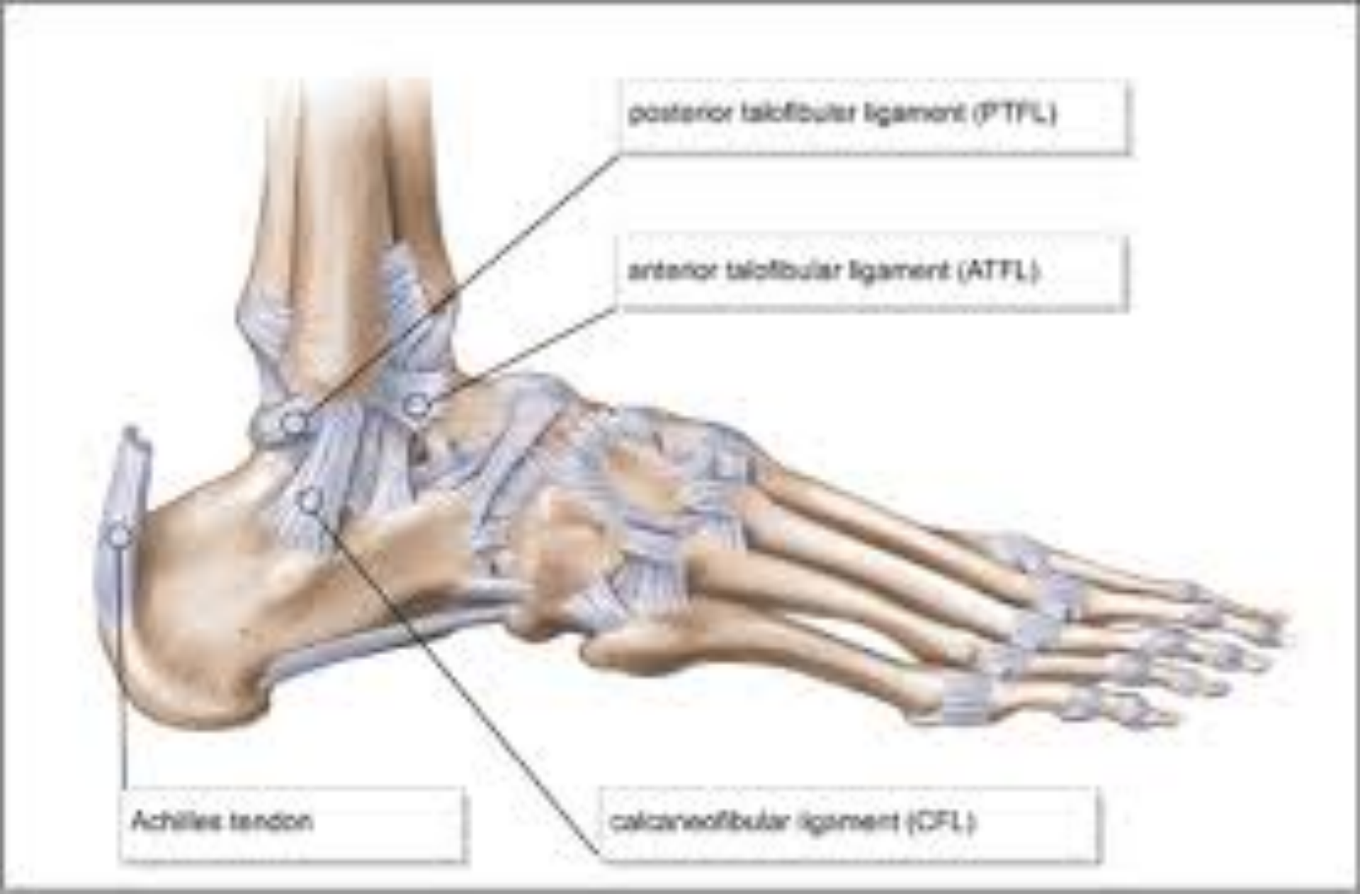
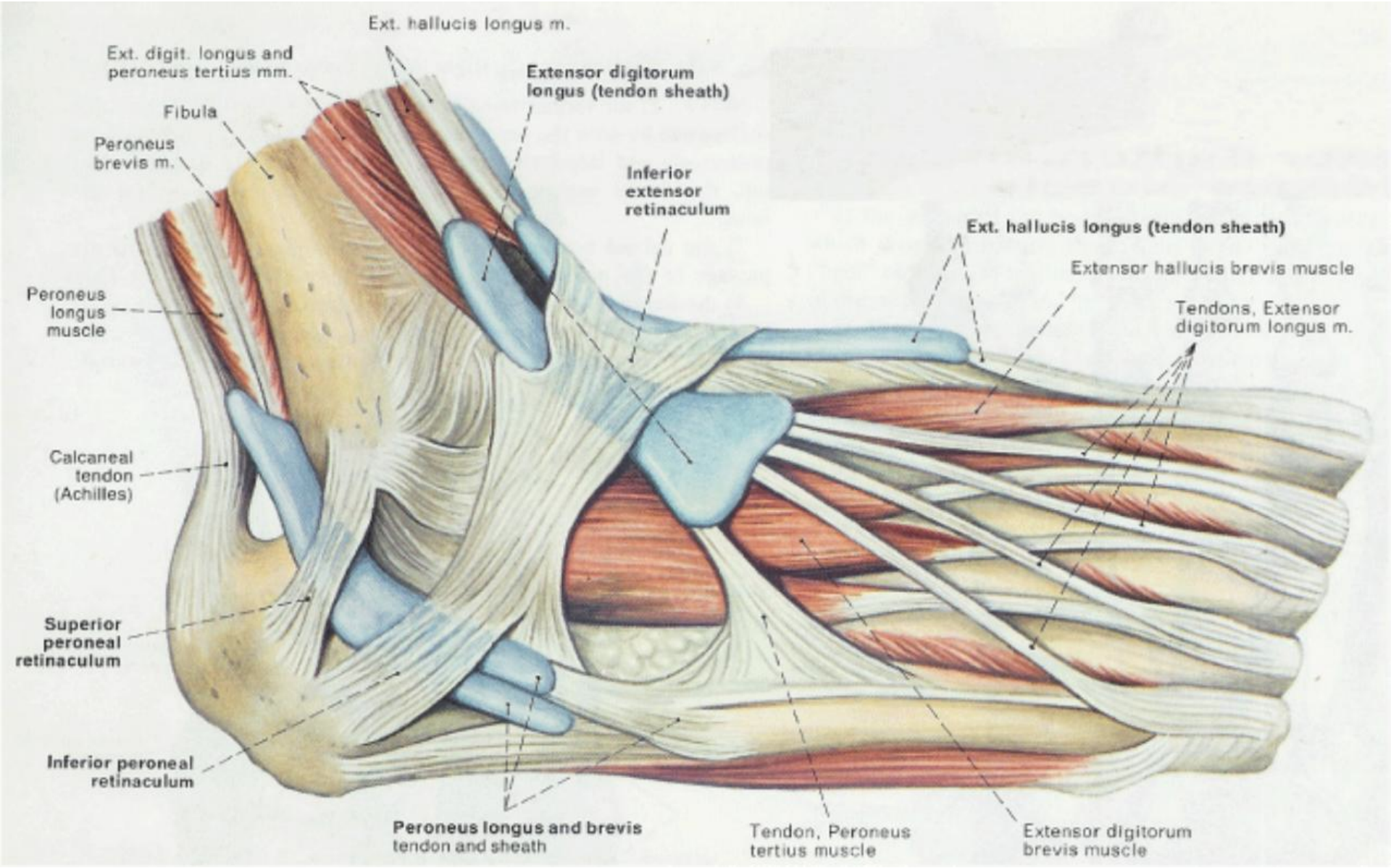
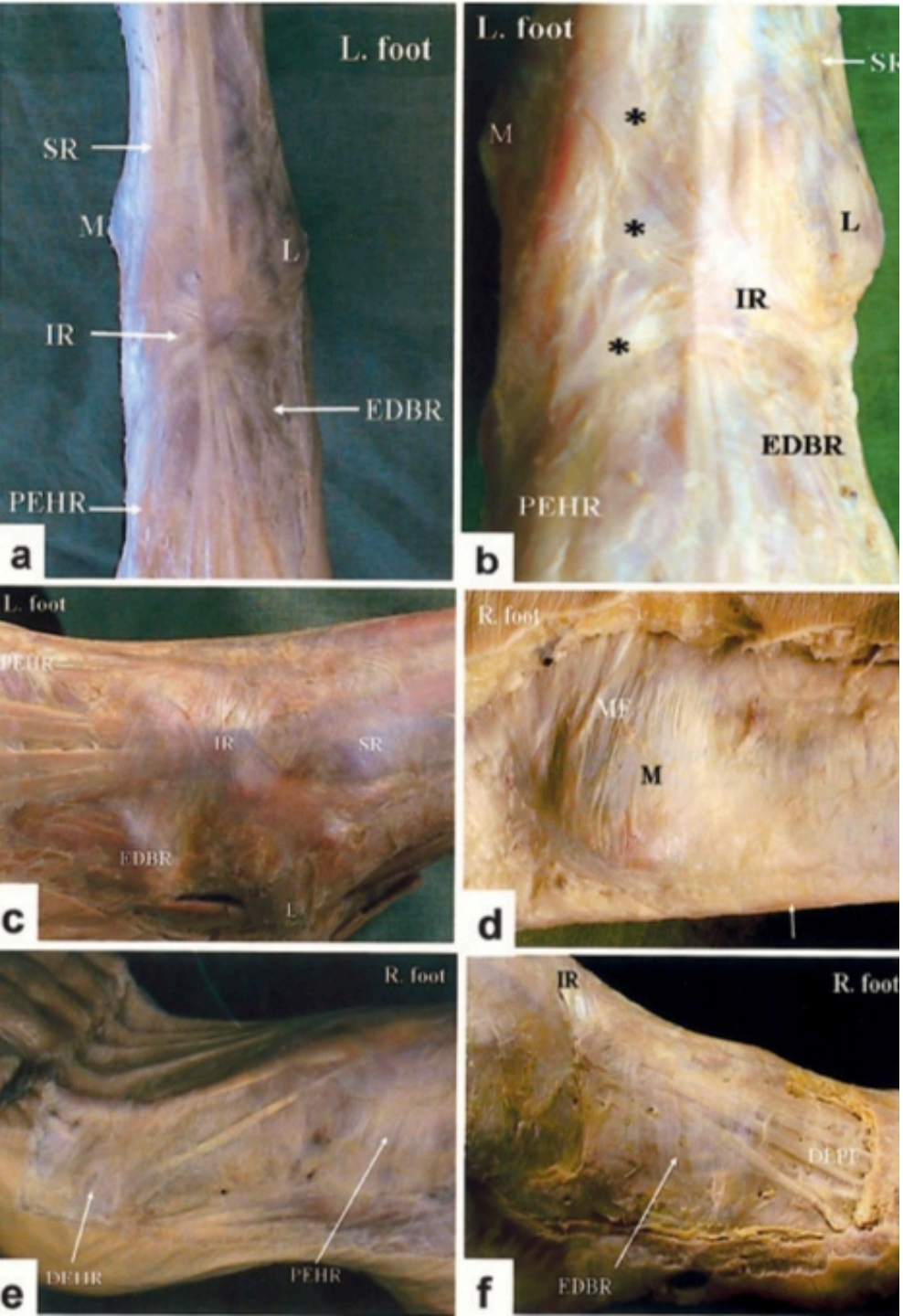
Muscle Tendon Junction

Golgi Reflex – stimulation results in change in tone of related tissue – stretching is not enough – needs to be in contracting tissue – 90% of GTO found on the muscle side –

Golgi end organs – ligaments - faster


posterior talofibular ligament (PTFL)
anterior talofibular ligament (ATFL)
Achilles tendon
calcaneofibular ligament (CFL)


Ext. hallucis longus m.
Ext. digit. longus and peroneus tertius mm.
Extensor digitorum longus (tendon sheath)
Fibula
Peroneus brevis m.
Inferior extensor retinaculum
Ext. hallucis longus (tendon sheath)
Extensor hallucis brevis muscle
Tendons, Extensor digitorum longus m.
Peroneus longus muscle
Calcaneal tendon (Achilles)
Superior peroneal retinaculum
Inferior peroneal retinaculum
Peroneus longus and brevis tendon and sheath
Tendon, Peroneus tertius muscle
Extensor digitorum brevis muscle


L. foot
SR
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a
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c
R. foot
ME
M
d
R. foot
DEHR
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e
IR
R. foot
DEPT
EDBR
f

What is the most important concern when it comes to the nervous system & movement?

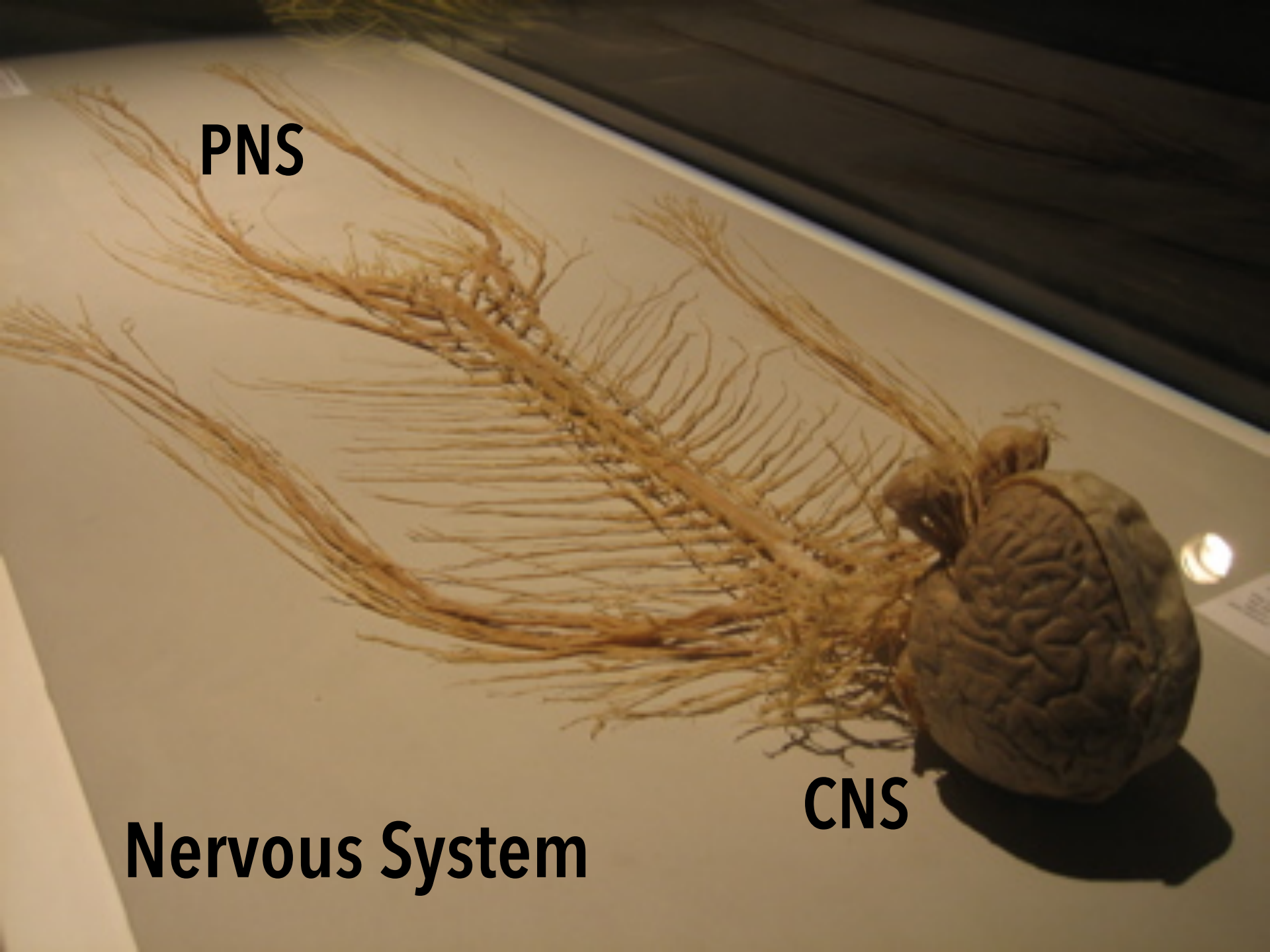
Time!

Key Concepts – Nervous System

Central Nervous System vs. Peripheral Nervous System

Sensory Nerves vs. Motor Nerves

Small Nerves vs. Large Nerves



Nervous System

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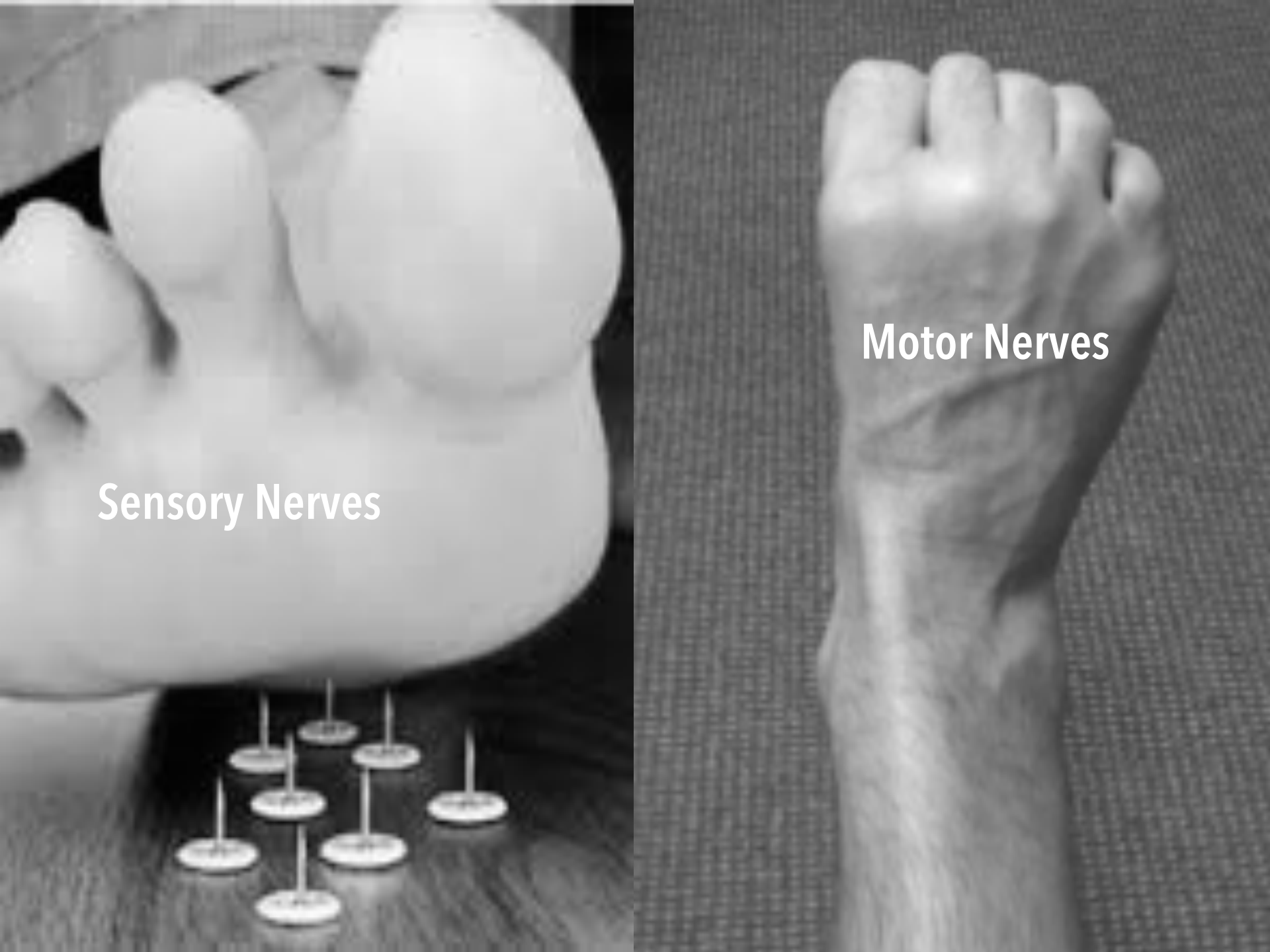
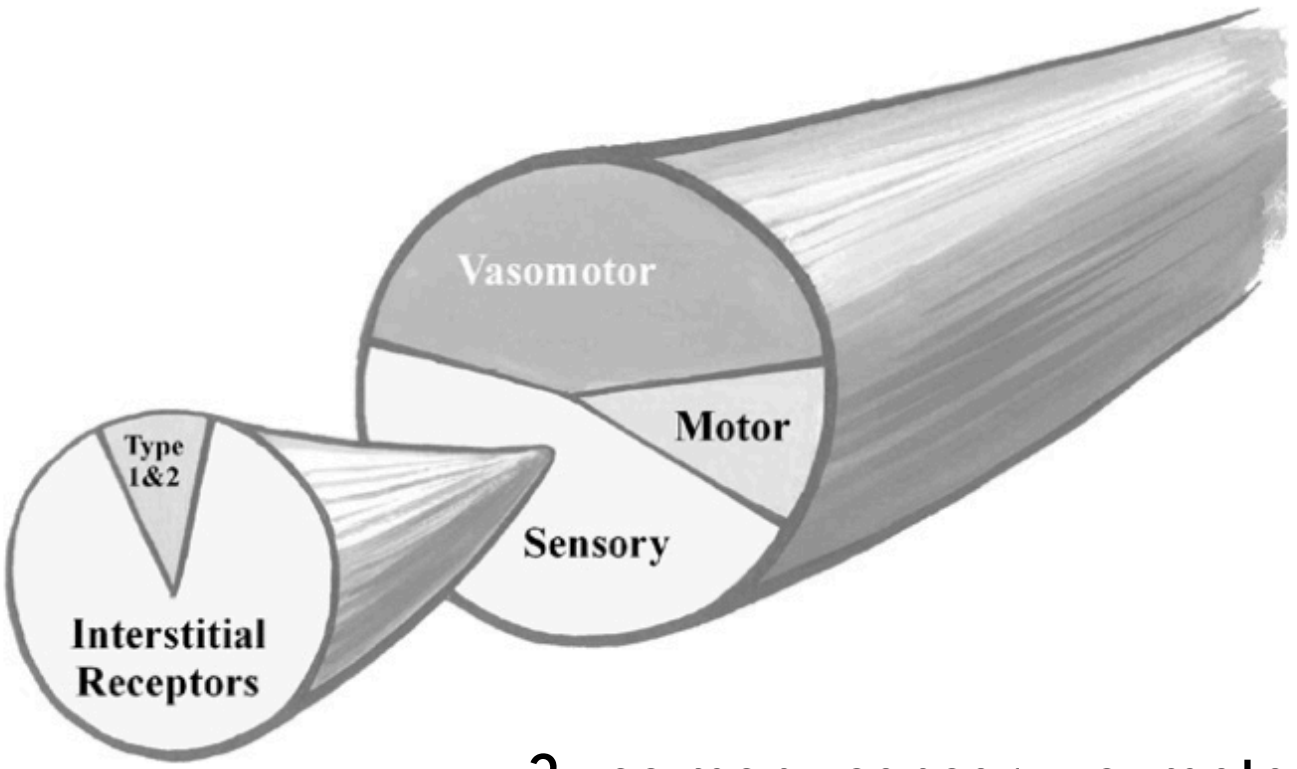

Sensory Nerves
Motor Nerves

Sensory Nerves



3x as many sensory vs. motor

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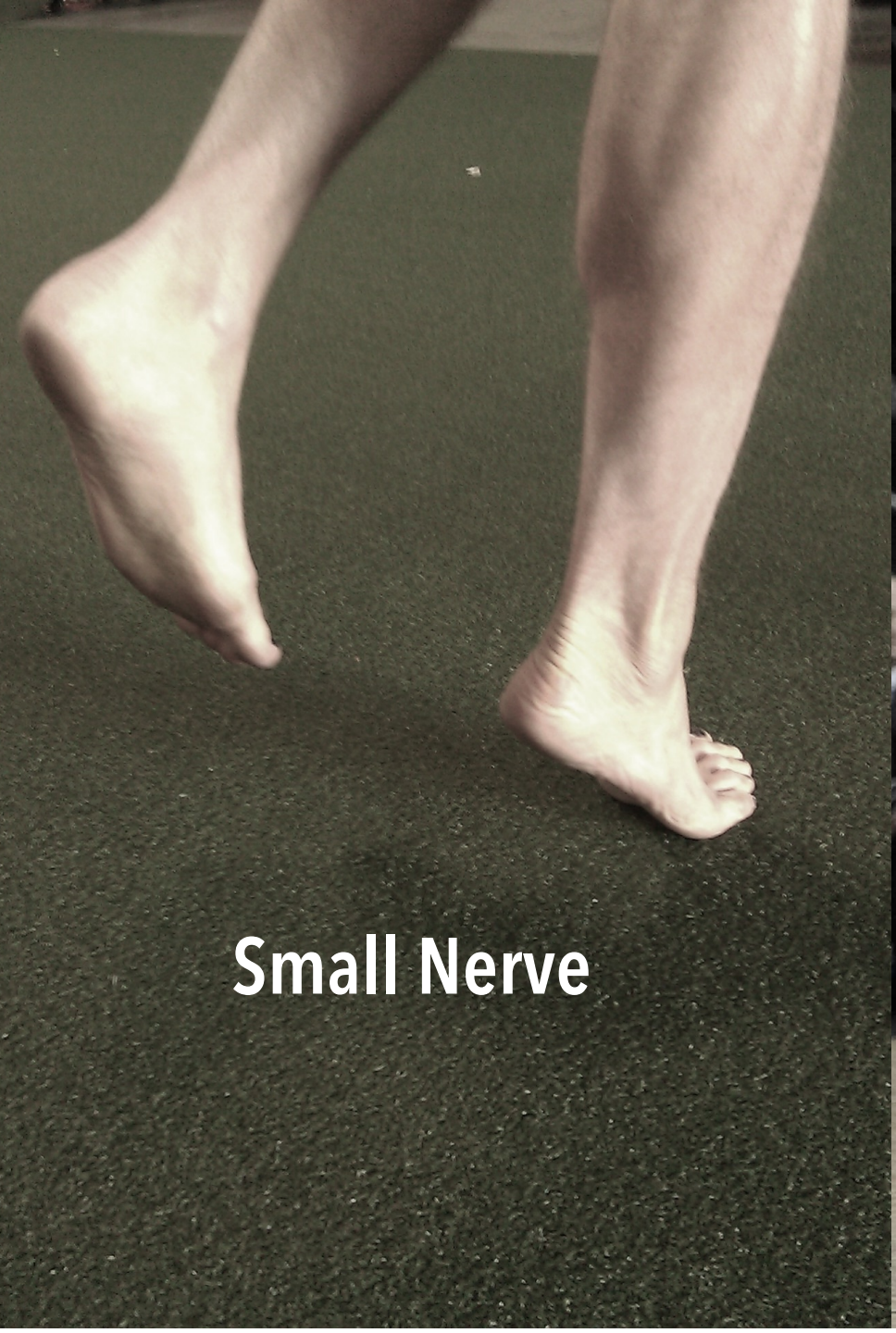

Small Nerve

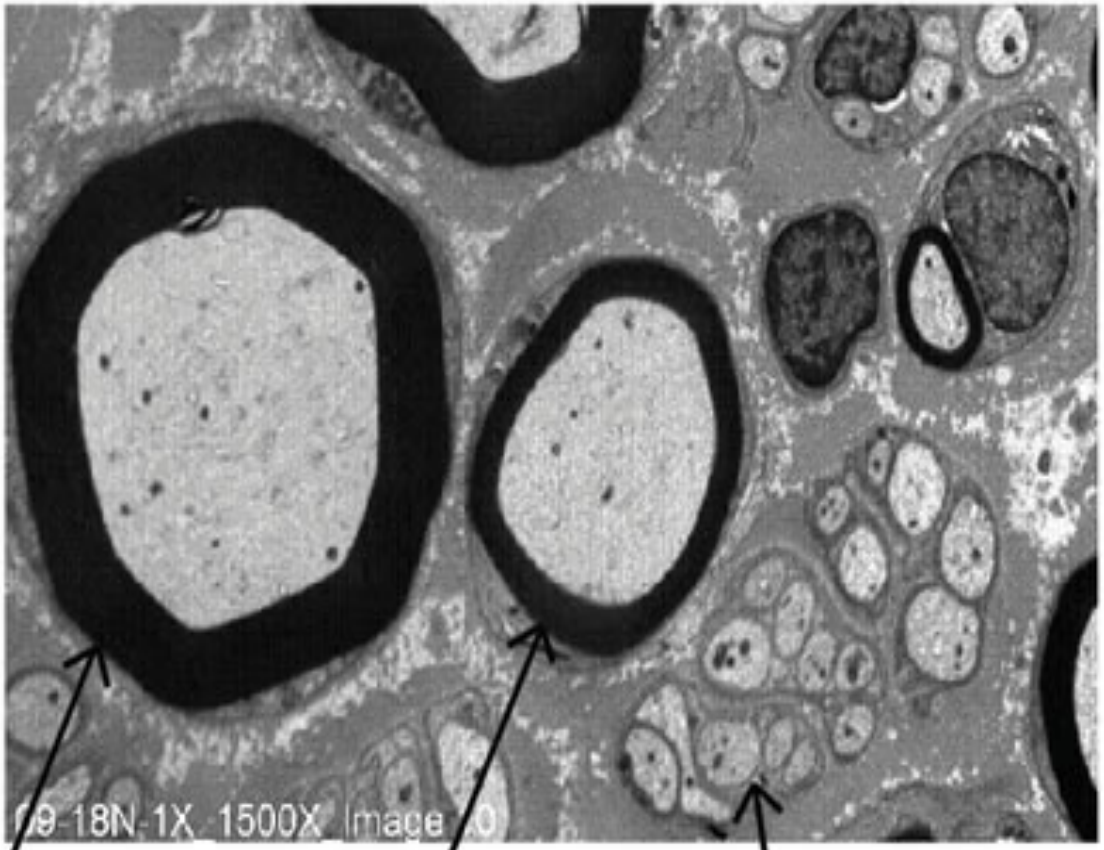

Large Nerve

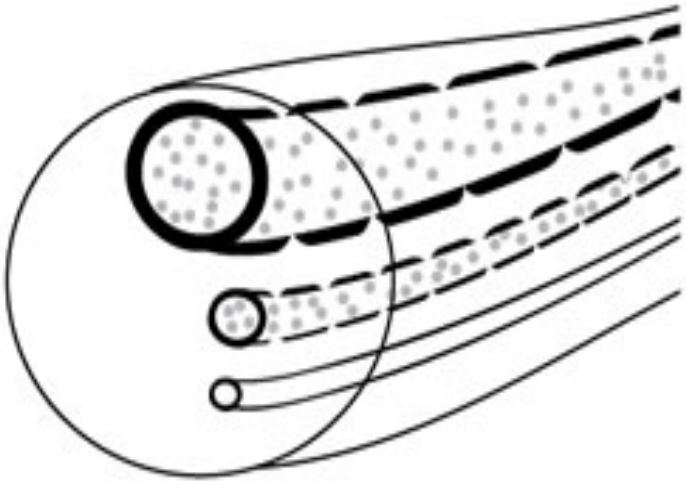
Small Nerve Receptors

Receptor	Sensation
• Ruffini's Corpuscles	• Skin Stretch
• Merkel's Disks	• Texture Perception
• Pacinian Corpuscles	• Deep Pressure/Vibration
• Meissner's Corpuscles	• Light Touch

Speed of Nerve Responses

Cross Section of Peripheral Nerve





Tibial Nerve Branches

3x as many sensory nerves vs. motor nerves

4x as many small sensory nerves vs large sensory nerves

What is the largest and most sensitive sensory tissue in the body containing the largest number of small nerves?


Neuromyofascial Web

Fasica Facts

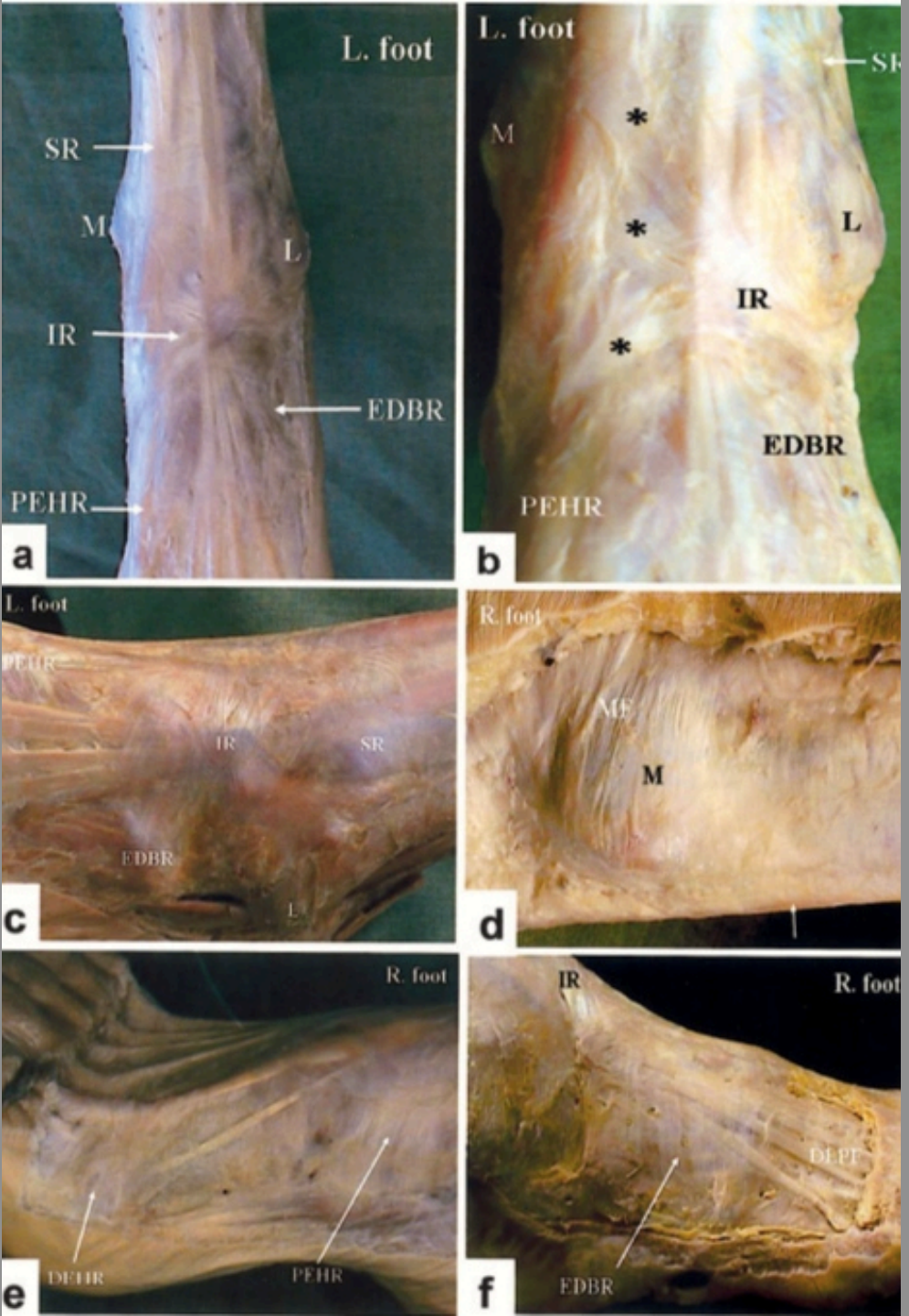
- Contains 10x as many sensory nerves vs. muscles
- Known as the organ of form & stability
- Provides an ectoskeleton for muscle attachment
- Contains collagen, elastin, myofibroblasts, hyaluronic acid (glue) all providing elastic recoil


Future of Proprioceptive Training
Small nerve barefoot fascial training

BARE® Workout

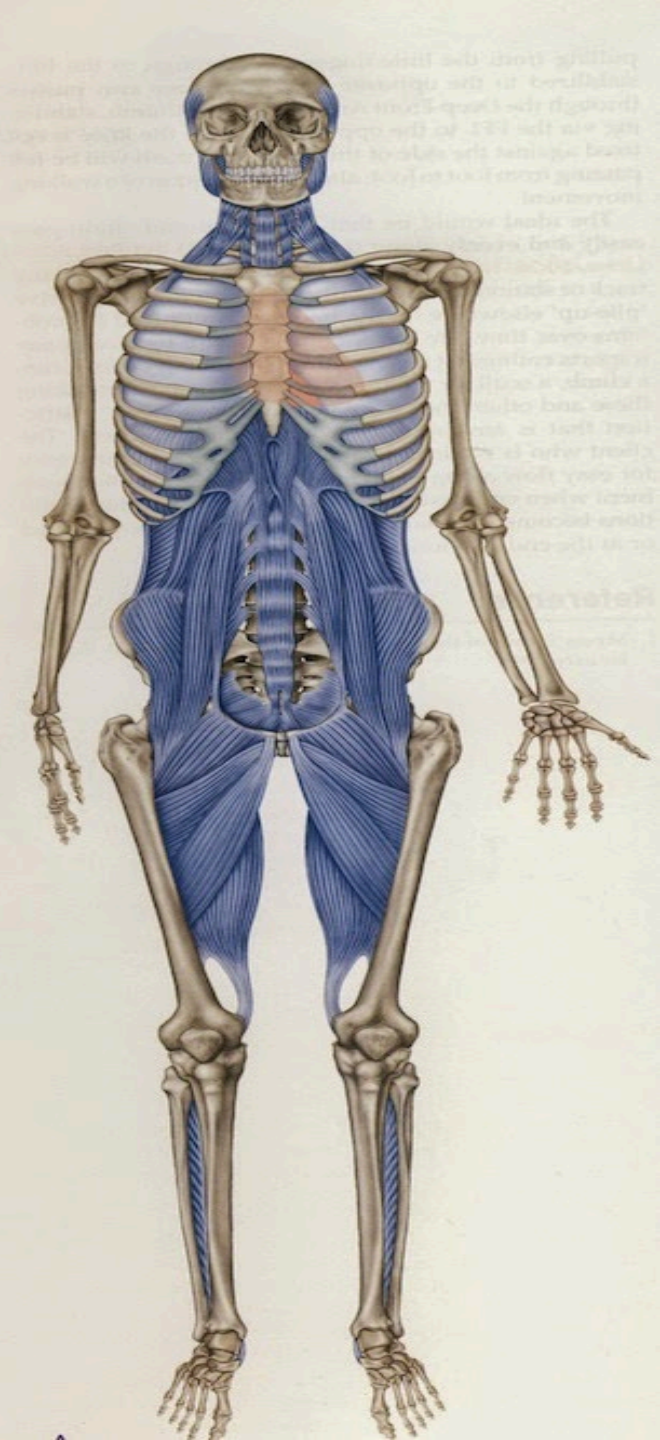
Fascial Tensioning

Fascial tensioning through isometrics



Ectoskeleton tensed during isometric contractions

"feel fascia" – not muscles



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

Deep Fascial Stability

Fascial Elasticity

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

5 Minutes Barefoot Prep

Single Leg Short Foot – 10 seconds
Single Leg Deadlift – 8 repetitions
Single Leg Squat – 8 repetitions
Single Leg Floor Tap – 8 repetitions
Single Leg Bowler's Squat – 8 repetitions
Side Lunge to Single Leg – 8 repetitions
Reverse Lunge to Single Leg – 8 repetitions
Rotational Lunge to Single Leg – 8 repetitions

Thank you

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