

Foot



SCRUBS

STUDENT COLLABORATIVE RESOURCES FOR UNDERSTANDING AND BRODY SUCCESS

Mission Statement

SCRUBS is a student-driven initiative that aims to develop supplemental resources for current and future cohorts that will pass through Brody. Members of **SCRUBS** participate in a variety of sub-committees working to create resources for students, by students. These resources aim to offer unique perspectives from students that have walked in the same shoes, developing resources that we wish we had been exposed to during our time in the course.

The hope is this organization will become a staple of the Brody student body, exemplifying the unique collaborative community that Brody offers. If this is a mission that aligns with your goals and you have the desire to help those that will come behind you, as well as a goal to leave your mark on Brody as a whole, we invite you to join the team!

Disclaimer

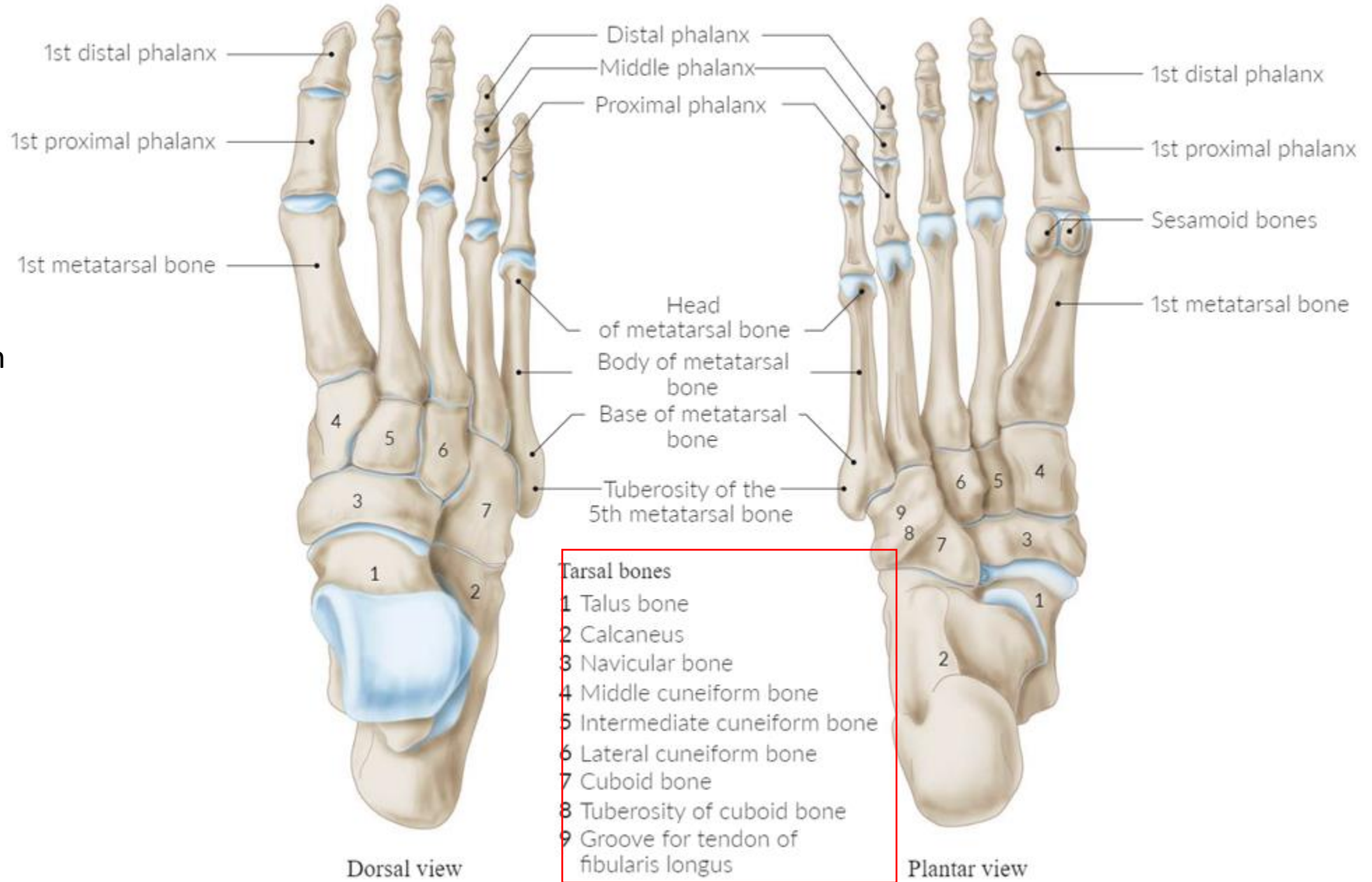
The resources that are included in this document are made by students and not the faculty. As such, there is the possibility for errors in our development, although this is mitigated via a team approach to development with multiple stages of vetting. If there is a contradiction with the coursework presented within your course, please go by the course documents. Additionally, **SCRUBS** aims to supply ***supplemental recourses***, however these are in no way replacements to the instruction of the Brody faculty. Use these recourses as a supplement, but not as your primary source for course material.

Osteology of the Foot

Tarsal Bones

- **T**alus
- **C**alcaneous
- **N**avicular
- **C**uboid
- **M**edial Cuneiform
- **I**ntermediate cuneiform
- **L**ateral Cuneiform

“Tiger Cubs Need MILC”



Muscles of Dorsal Foot

All innervated by the deep fibular nerve (L4-S2)

Extensor digitorum brevis

O: *Calcaneus*

I: *Tendons of extensor digitorum longus (2-4 only)*

N: *Deep Fibular Nerve, L4-S2*

A: *Extension of 2-4 digits*

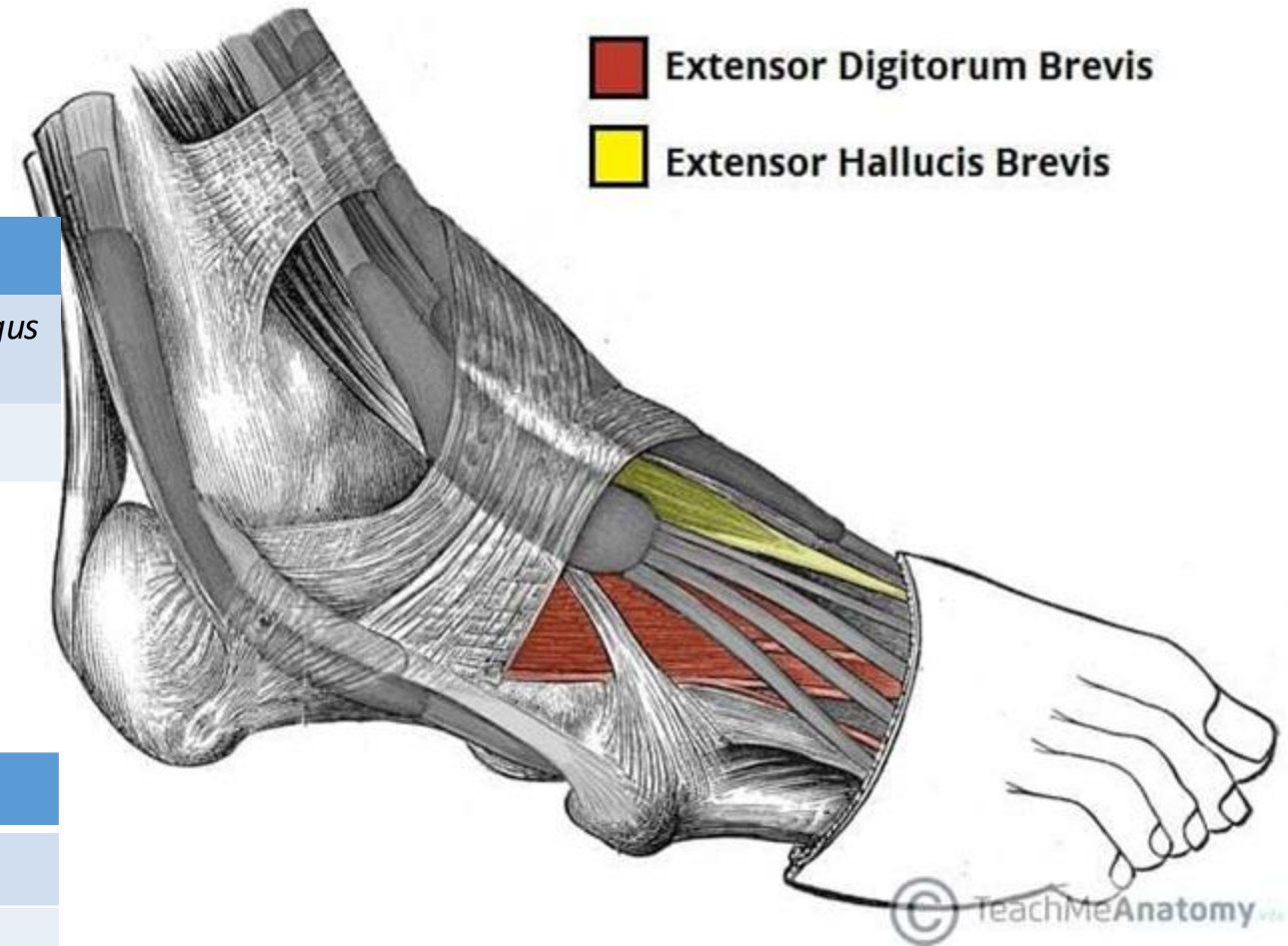
Extensor Hallicis Brevis

O: *Extensor digitorum brevis*

I: *Proximal phalanx of big toe*

N: *Deep Fibular Nerve, L4-S2*

A: *Extend the big toe*



Muscles of Plantar Foot – 1st Layer

*Abductors + FDBrevis, mostly medial plantar nerve
All originate from calcaneus + plantar aponeurosis*

Abductor Hallucis

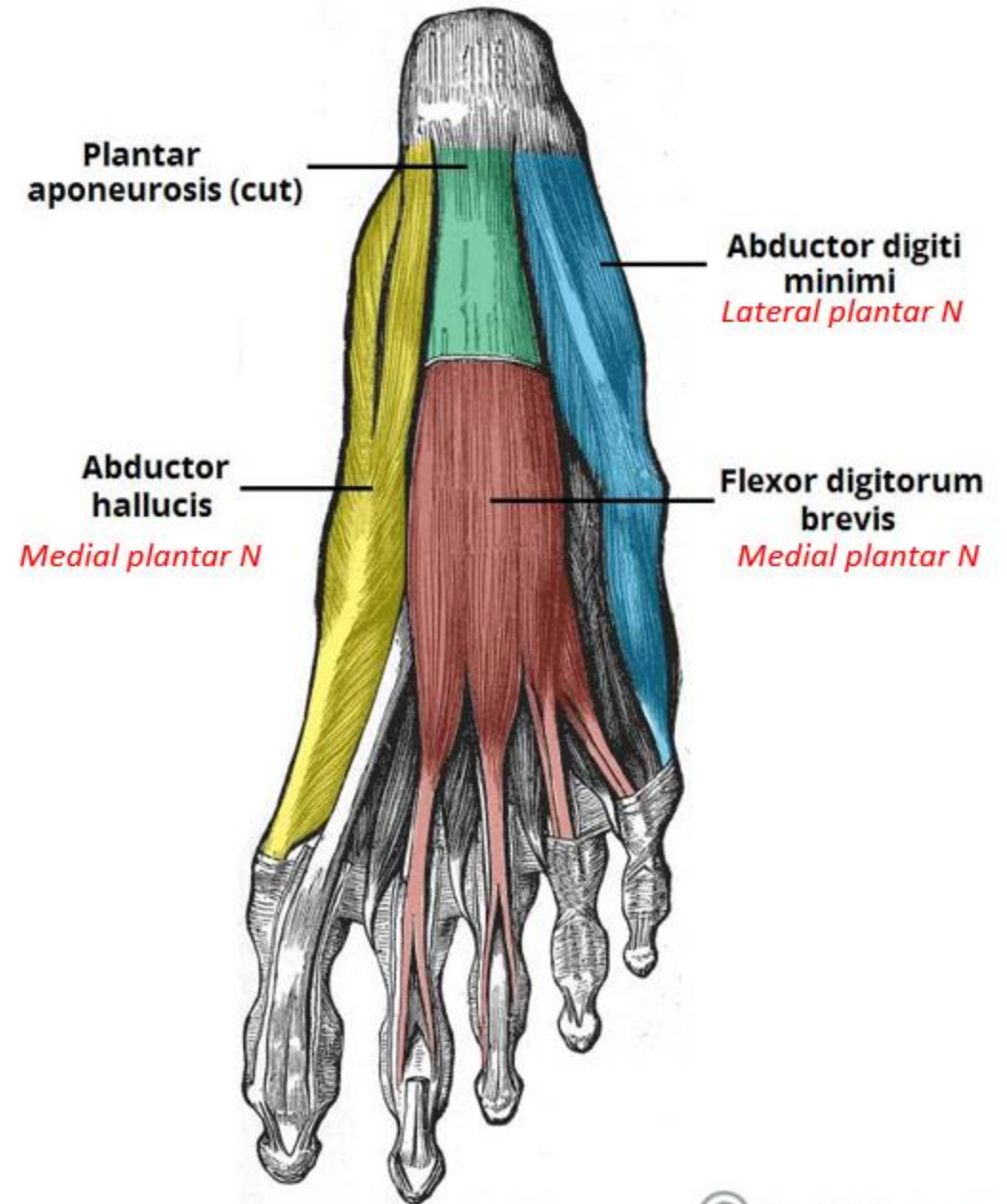
O: Calcaneus and plantar aponeurosis **I:** Proximal phalnx of big toe
N: Medial plantar nerve, **L4-S3** **A:** Abducts and flexes big toe

Flexor digitorum brevis

O: Calcaneus and plantar aponeurosis **I:** Middle Phalnx of 2-5
N: Medial plantar nerve, **L4-S3** **A:** Flex at the PIP

Abductor digiti minimi

O: Calcaneus and plantar aponeurosis **I:** Proximal phalanx of small toe
N: Tibial Nerve, **L4-S3** **A:** Abduct and flex the toe



Muscles of Plantar Foot – 2nd Layer

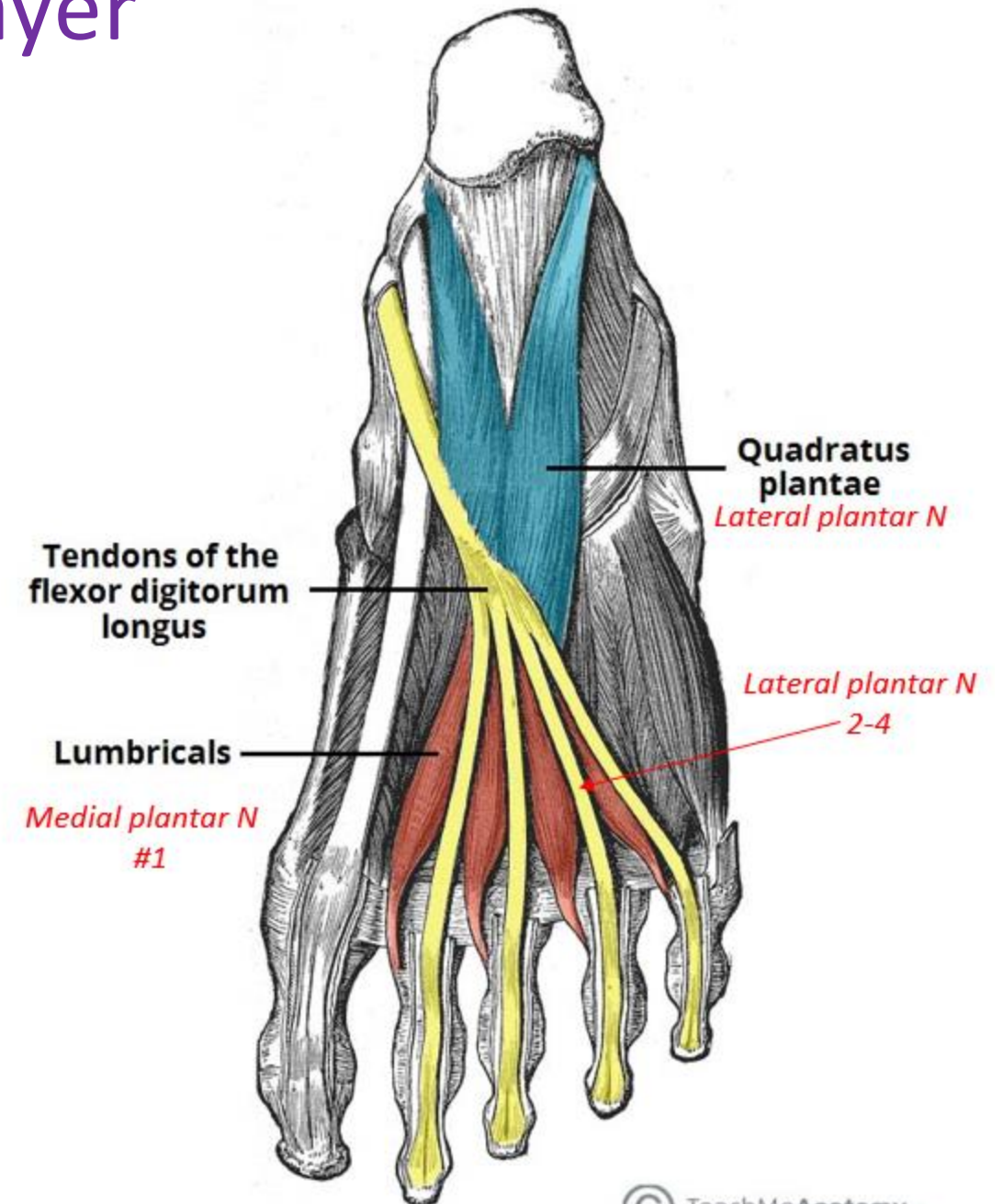
Long Tendons + Associated Muscles
Mostly Lateral Plantar Nerve Now

Quadratus Plantae

O: <i>Calcaneus</i>	I: <i>Lateral margin of Flexor Digitorum Longus</i>
N: <i>Lateral plantar nerve, L4-S3</i>	A: <i>Assists in flexion of FDL</i>

Lumbricals

O: <i>Tendons of the FDL</i>	I: <i>Extensor expansions of 2-5</i>
N: <u>2-4</u> , <i>Lateral plantar nerve, L4-S3</i> <u>1st</u> = <i>Medial plantar nerve, L4-S3</i>	A: <i>Flex MCP, Extend MIP, DIP</i>



Muscles of Plantar Foot – 3rd Layer

Flexors + Adductor Hallucis
Mostly Lateral Plantar Nerve

Flexor Hallucis Brevis

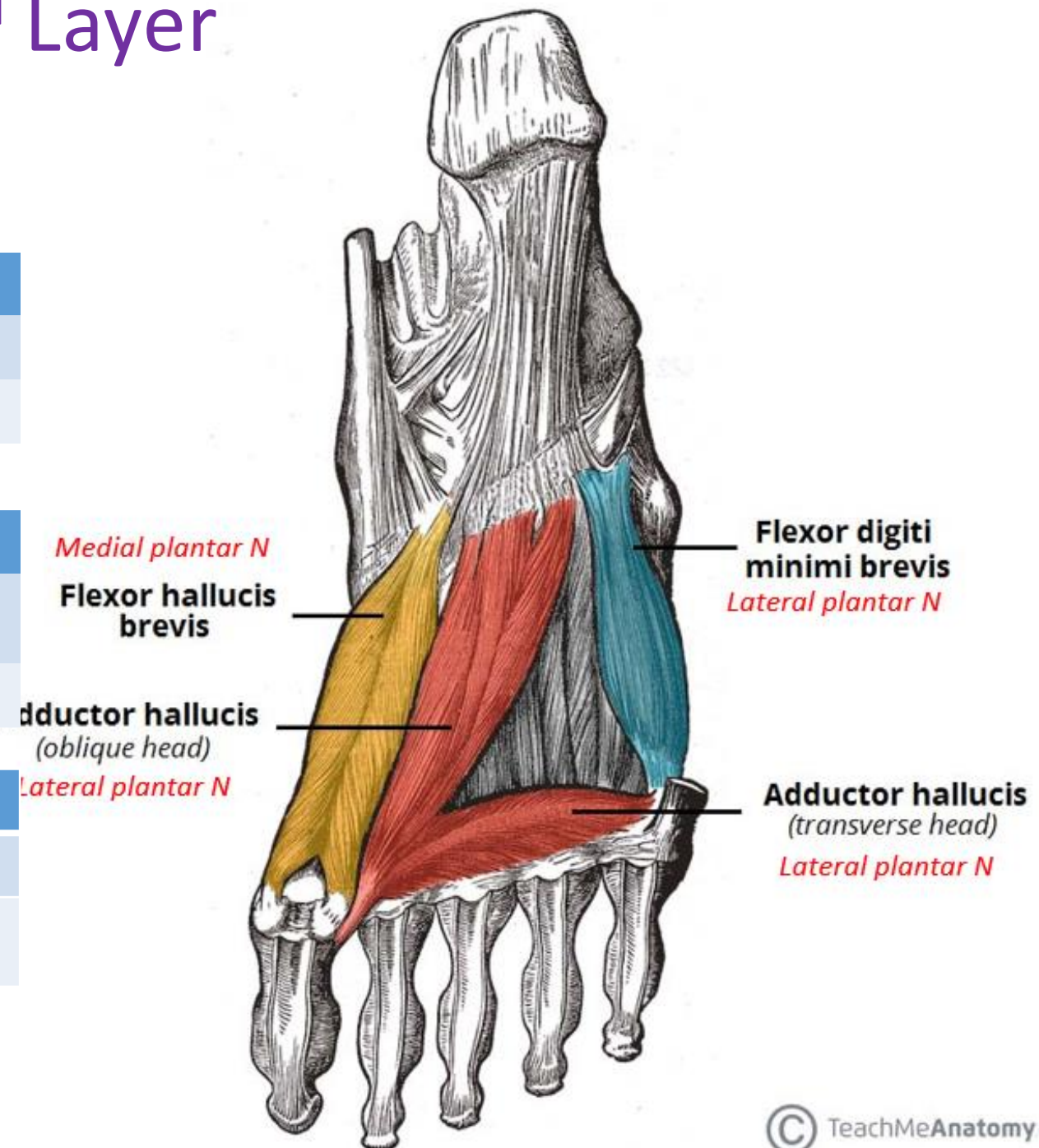
O: Cuboid, lateral cuneiform	I: Proximal phalanx of 1 st digit
N: Medial plantar nerve, L4-S3	A: Flexes the big toe

Adductor Hallucis

O: Oblique – base of 2-4 metatarsals Transverse – plantar MTP ligaments	I: Proximal phalanx of big toe
N: Lateral plantar nerve, L4-S3	A: Adduct Hallux

Flexor Digiti Minimi

O: 5 th Metatarsal	I: Proximal phalanx of 5 th digit
N: Lateral plantar nerve, L4-S3	A: Flex digiti minimi



Muscles of Plantar Foot – 4nd Layer

Interosseous + Tendons of TP/FL

Dorsal Interossei

O: Adjacent Metatarsals

I: Proximal phalanx of 2-4

N: Lateral plantar nerve, *L4-S3*

A: **Ab**duct away from midline

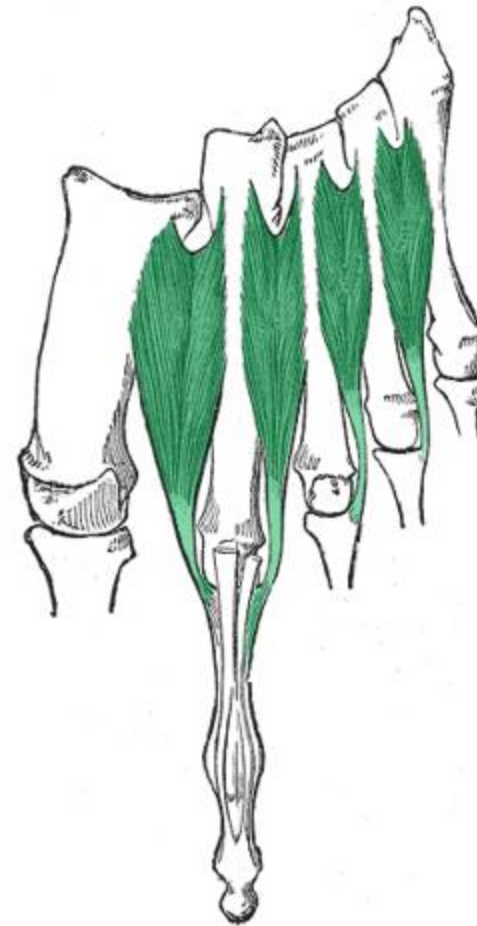
Plantar Interossei

O: Medial sides of 3-5

I: Proximal phalanx of 3-5

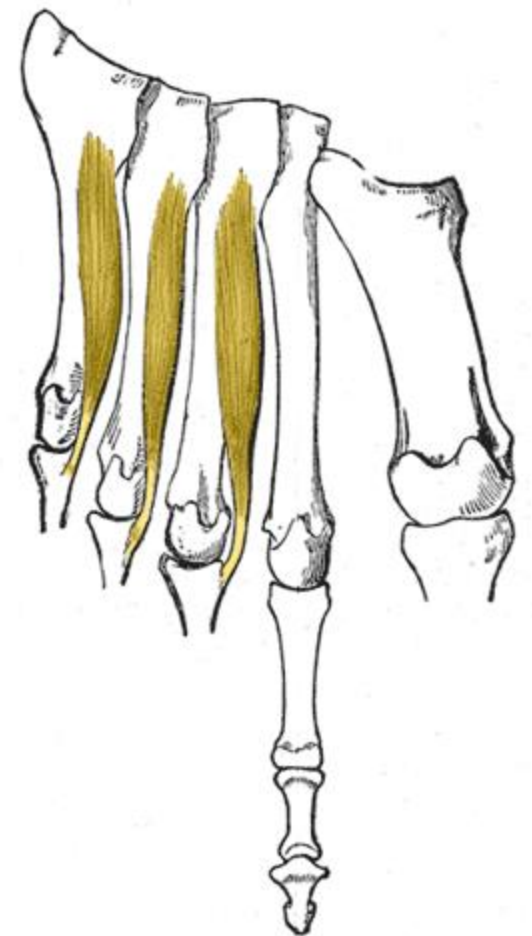
N: Lateral plantar nerve, *L4-S3*

A: **Ad**duct toward midline



a) Dorsal Interossei

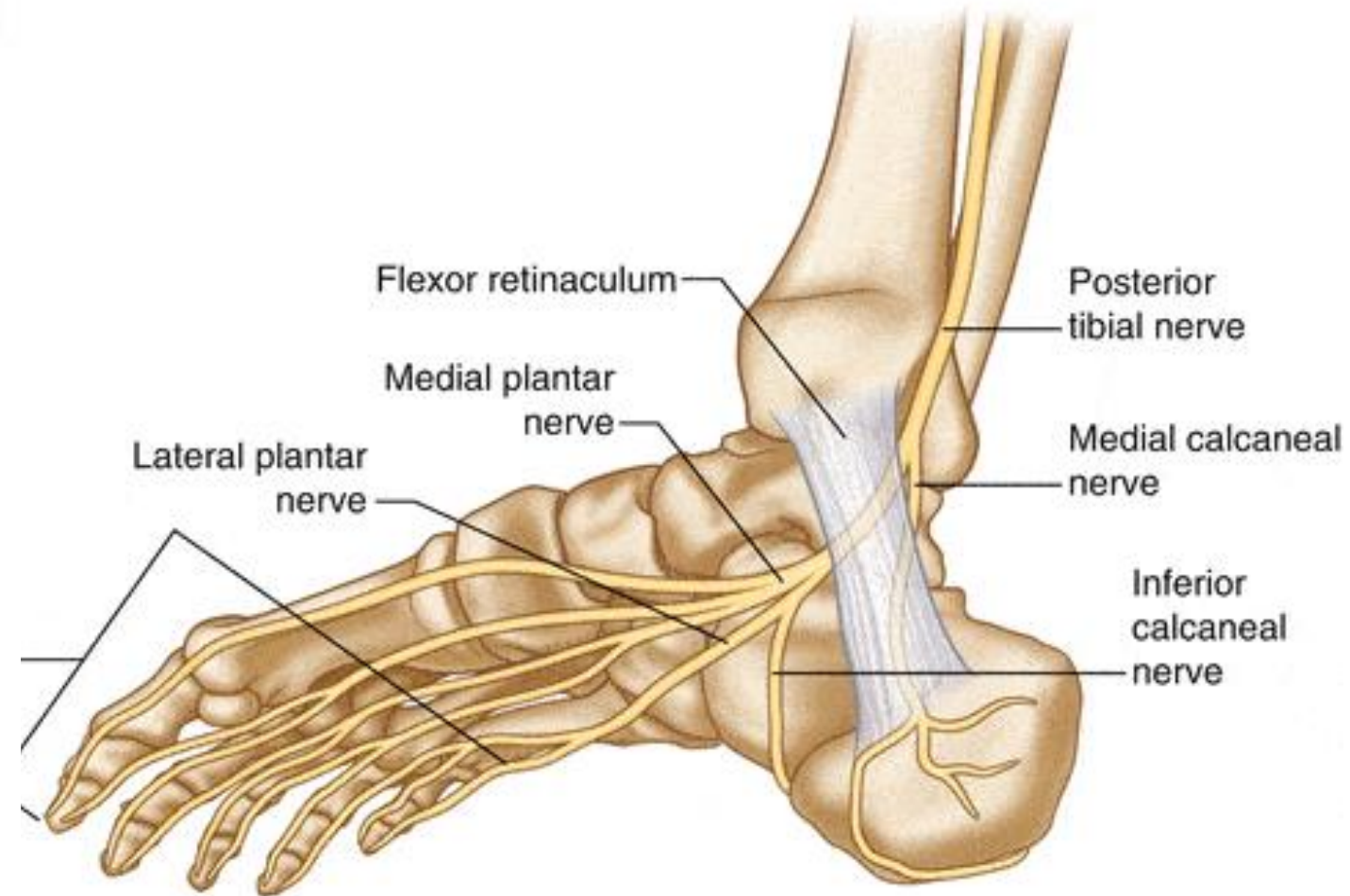
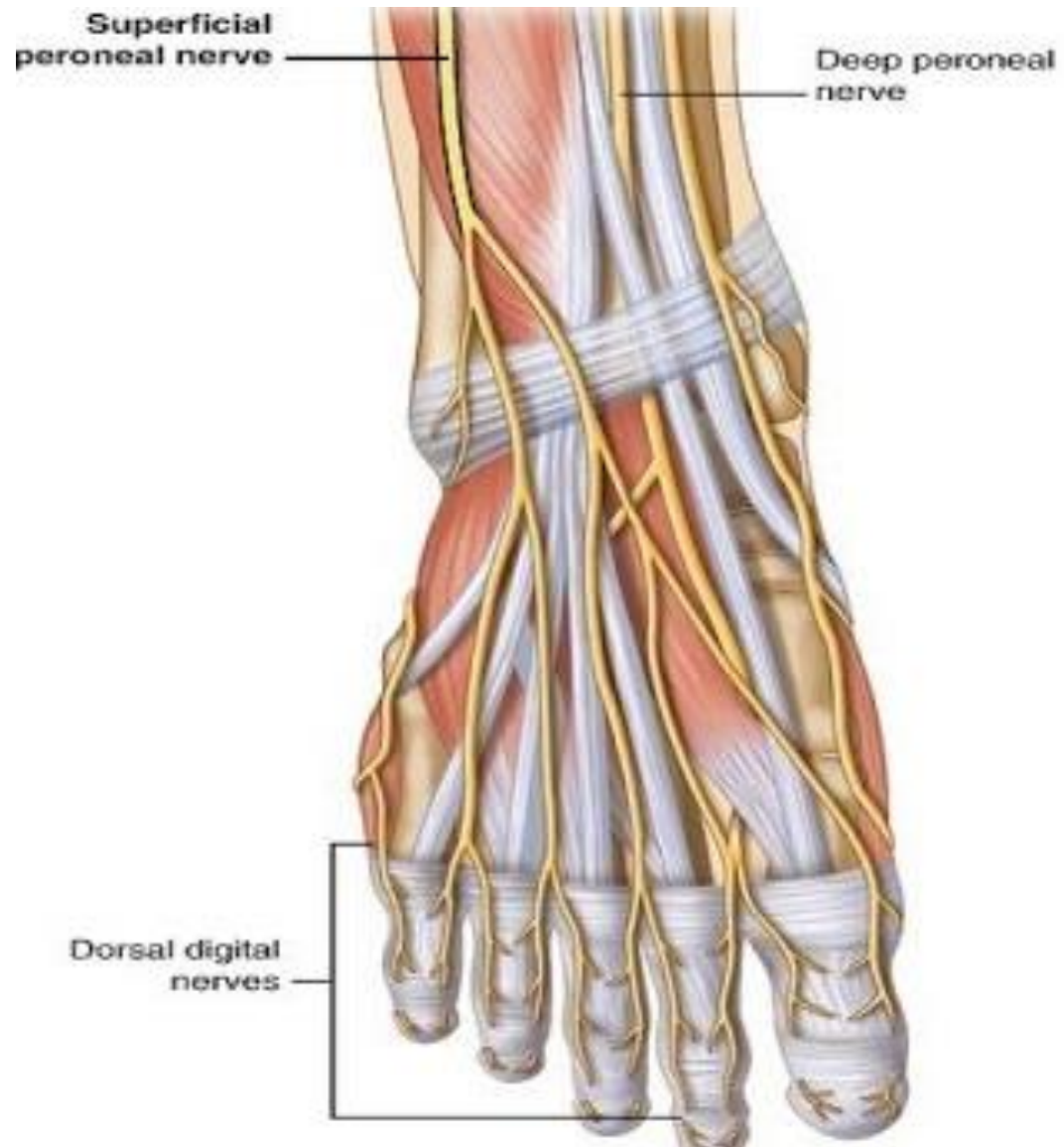
Lateral plantar N



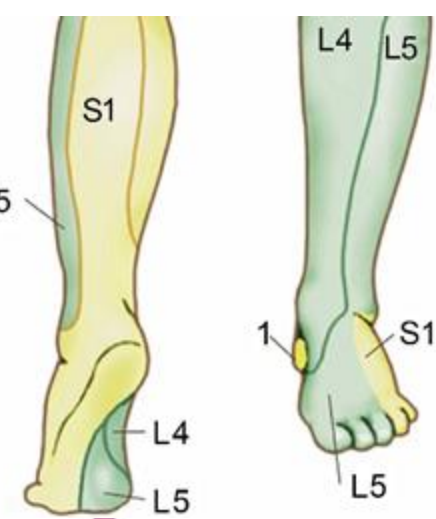
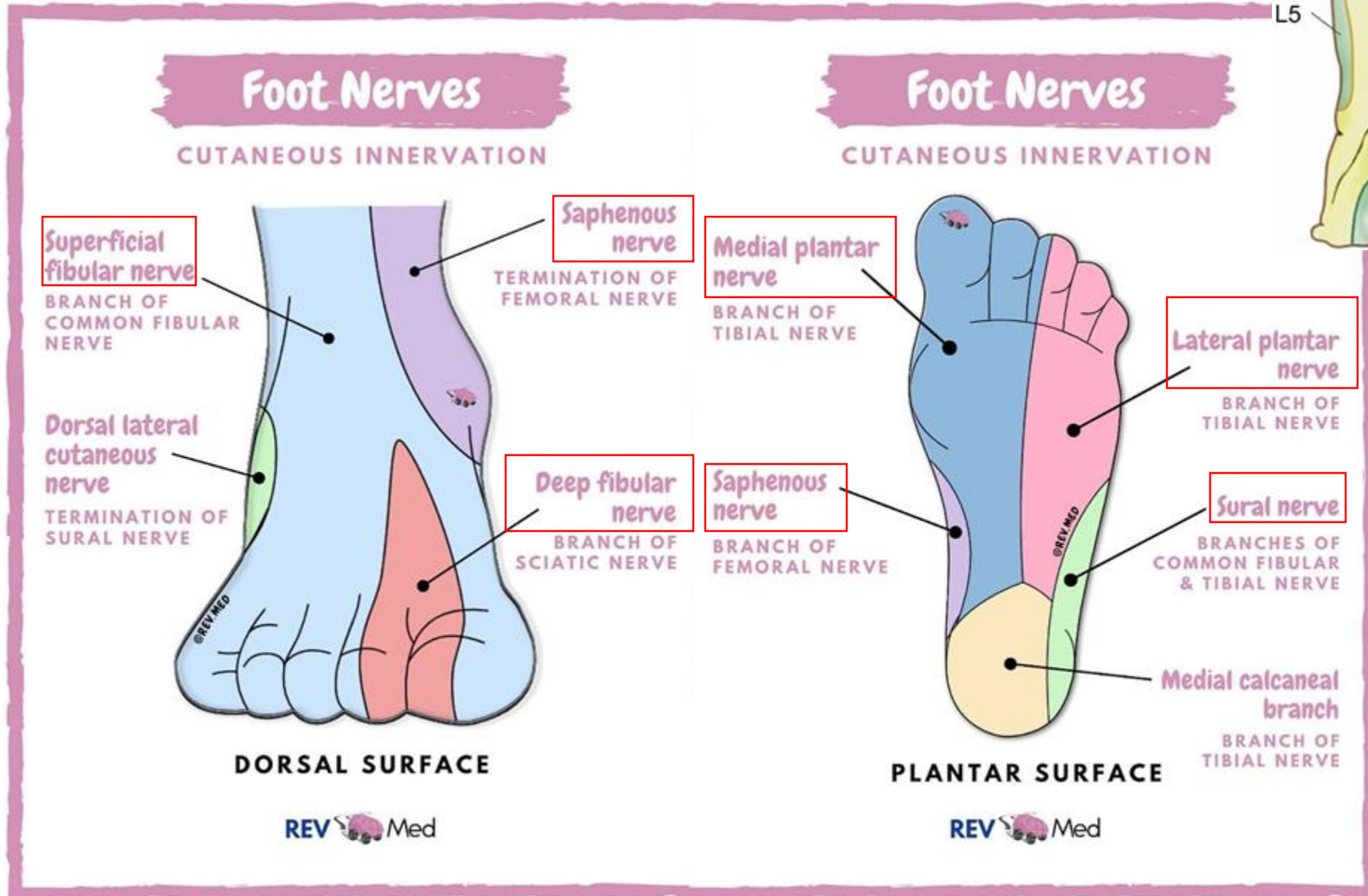
b) Plantar Interossei

Lateral plantar N

Muscular innervation of the foot



Cutaneous innervation of the foot



Dermatomes

L4- Medial side of big toe

L5 – Lateral big toe, 2-4 digits

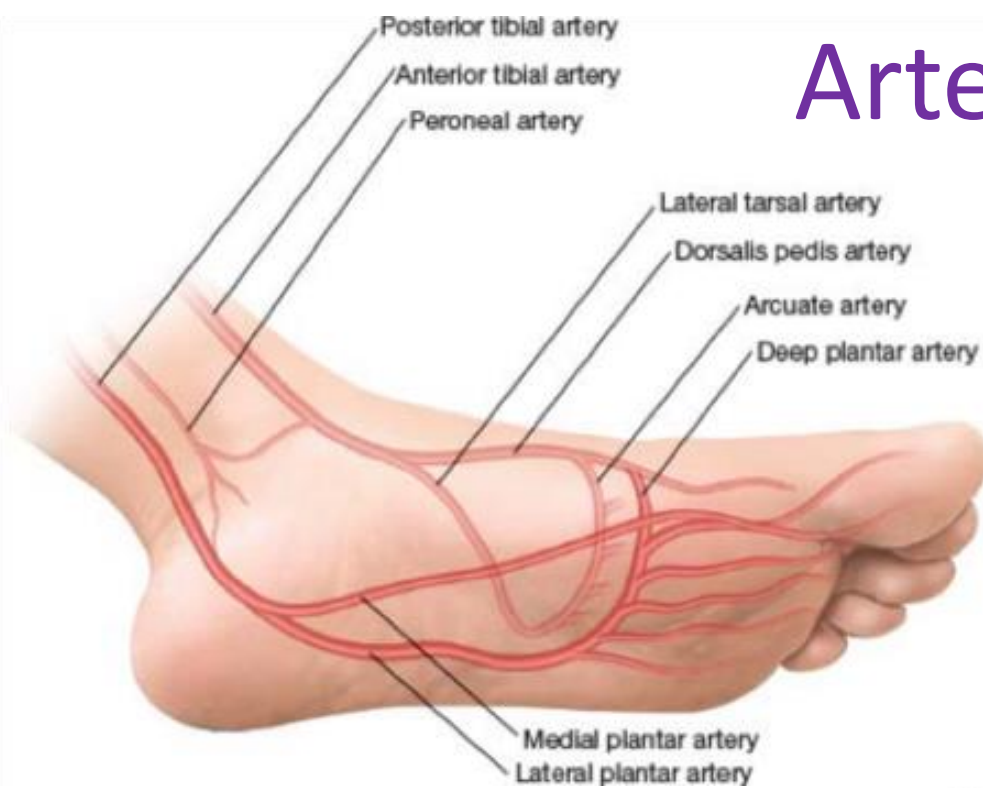
S1 – Little Toe

Medial plantar nerve: Medial 3.5 digits

Lateral plantar nerve: 1.5 digits

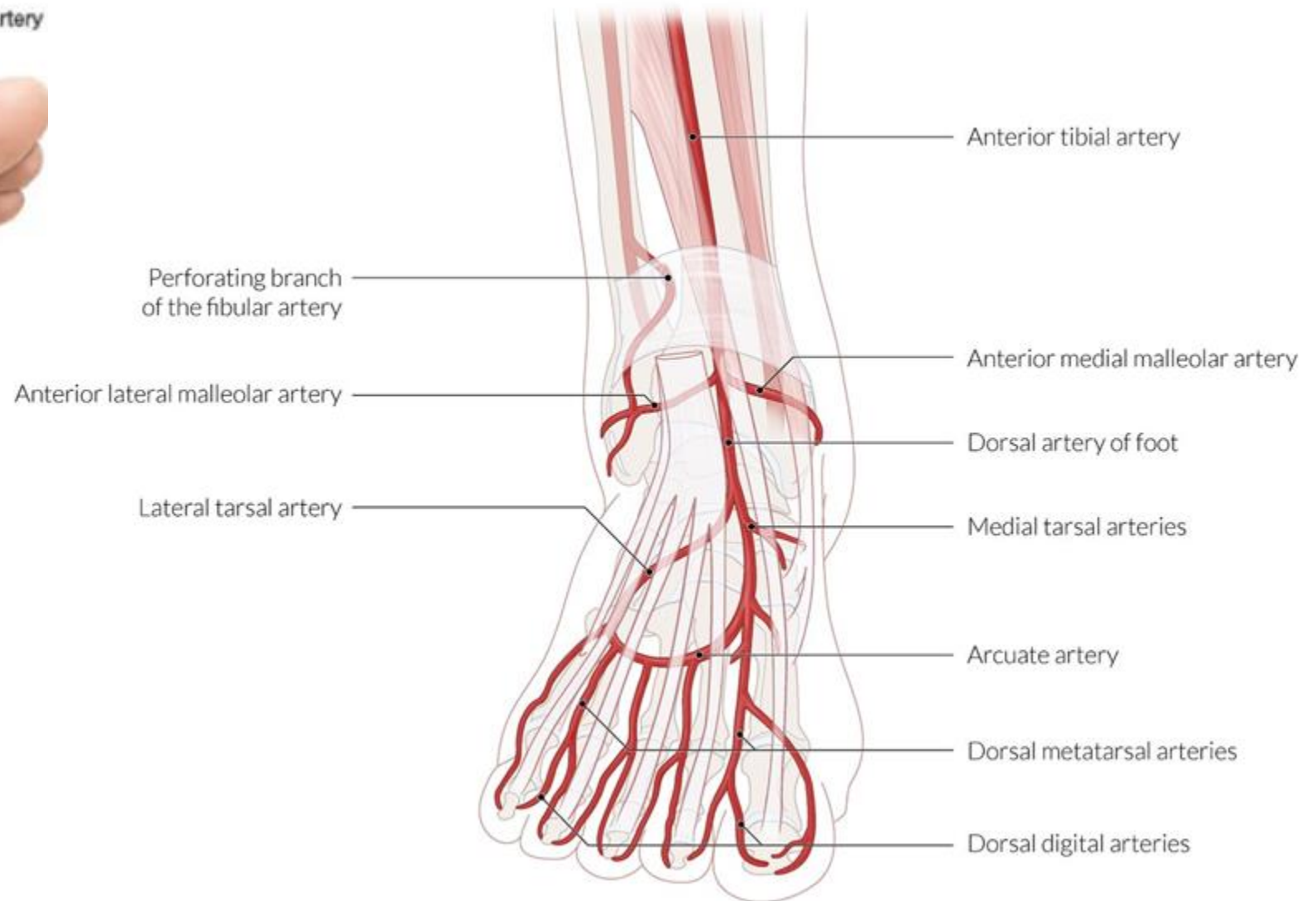
(Per CP, slightly different than the image)

Arteries of the foot



Dorsum of the Foot: Anterior tibial artery ? Dorsalis pedis ? Deep plantar arch

Planter Foot: Posterior Tibial ? Medial and Lateral plantar ? Deep plantar (lateral plantar only)



Veins of the foot

