General Principles of Alignment: Firm Foundations

The Feet (Pada)

“The human foot is a masterpiece of engineering and a work of art”

Leonardo da Vinci

Each foot in a typical person has:

- 26 to 28 bones
- 19 muscles
- 31 to 33 joints
- Connective tissue:
  (fascia, tendons, ligaments)
- 3 arches

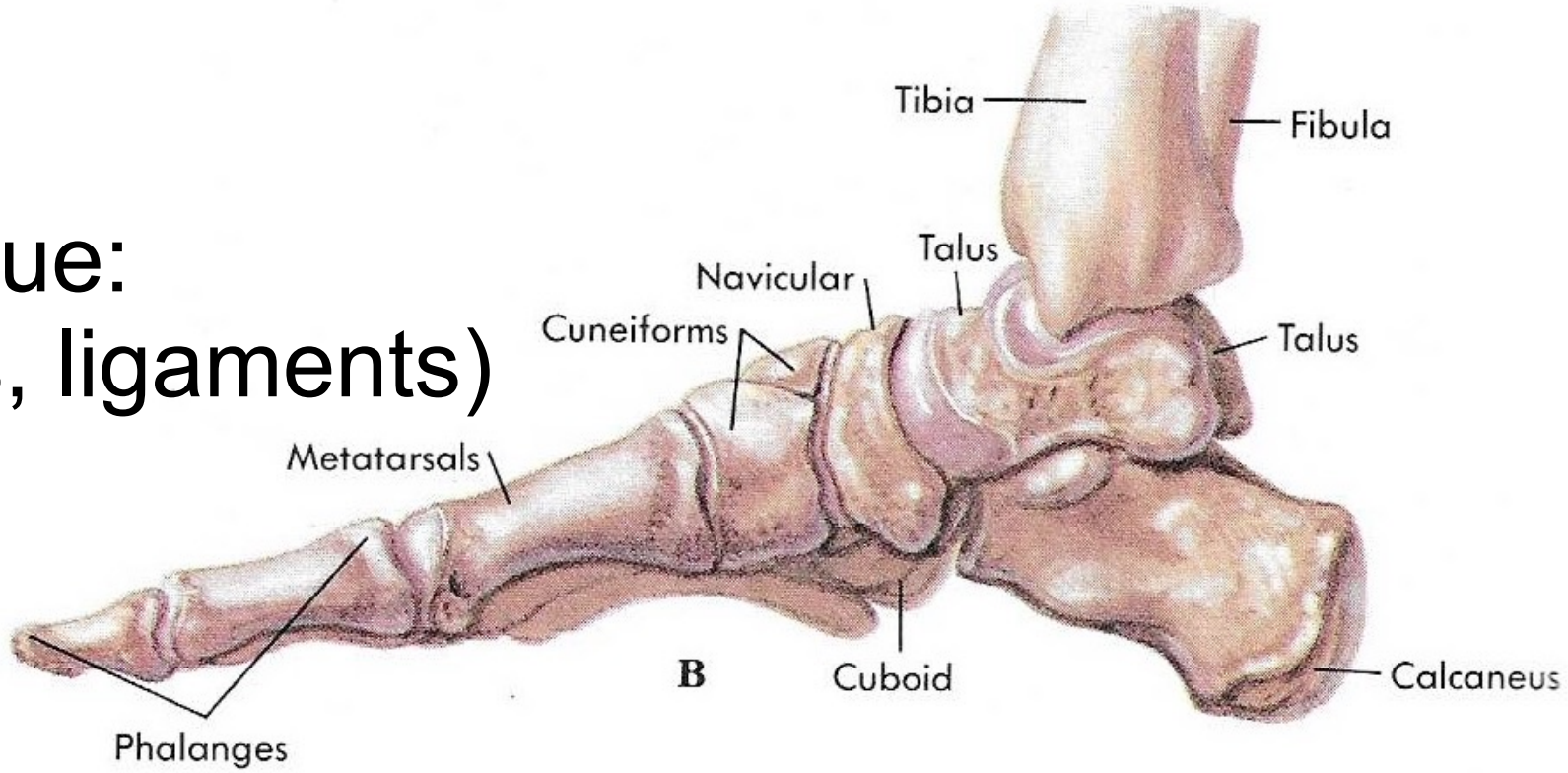


Image credit: Anatomy & Physiology Seeley Stephens Tate

3 Arches of the Foot

- Our feet are springs!
- Bones of the feet form 3 arches
- Ligaments provide the springiness!
- Shock absorbers, bear weight, adapt the shape of our feet to the ground & propel us into movement
- The 3 arches form a triangle (our base in tadasana)
- The shape of our arches can affect our joints and posture further along the chain e.g. knees, hips, pelvis, spine.

See Page 89, Science of Yoga

Plantar Fascia:

- A thick band of connective tissue that runs from the heel to the balls of the foot.
- Contributes to the strength and flexibility of our arches
- Tight plantar fascia can show up as tight hamstrings, lower back issue and neck problems.
- Plantar fasciitis: pain in the heel and bottom of the foot

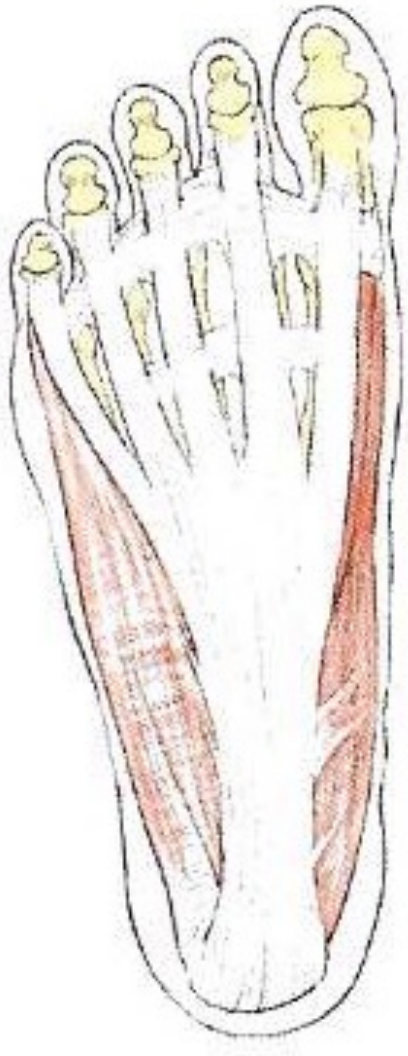


Image credit: Yoga Anatomy Leslie Kaminoff

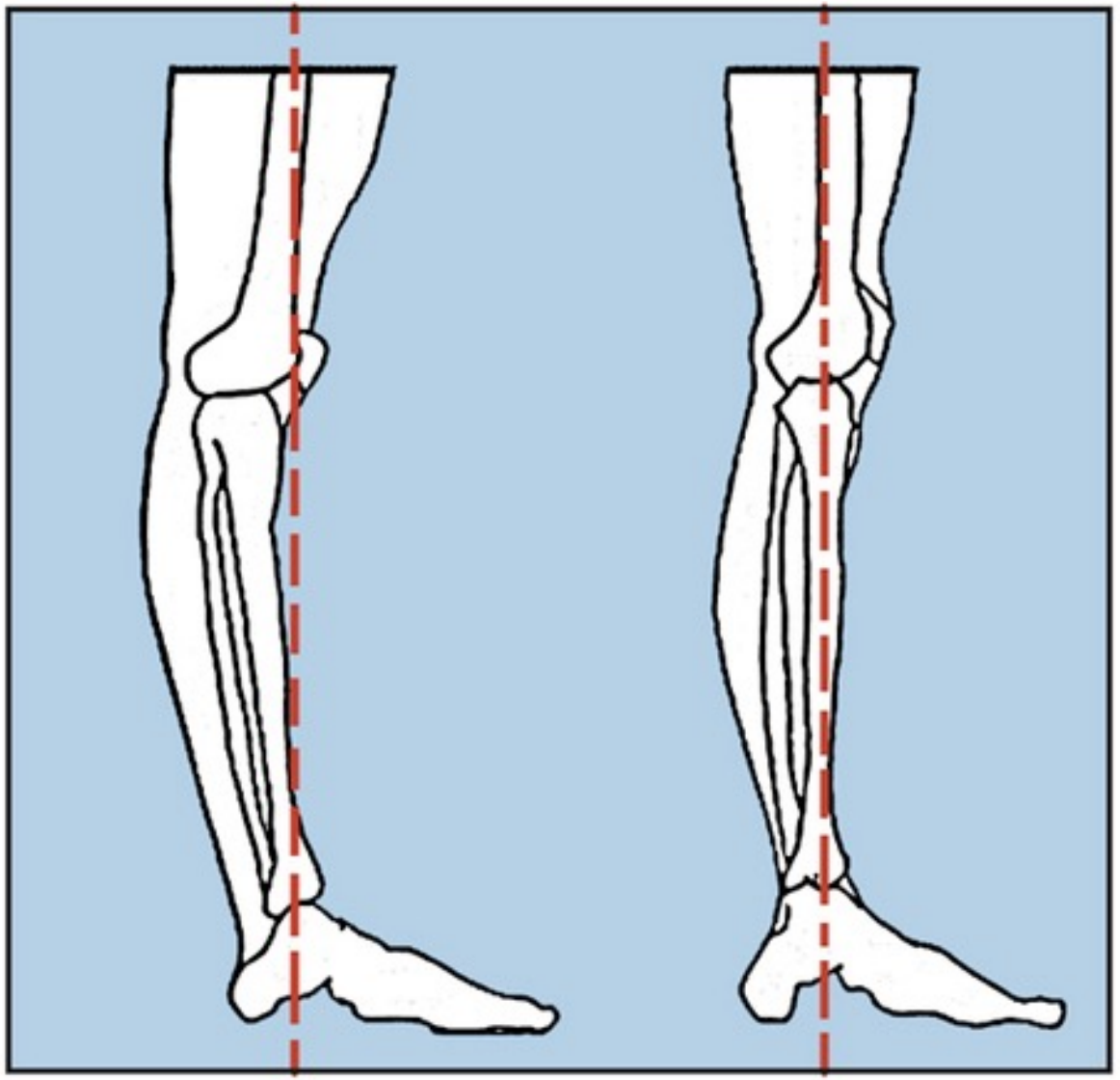
How yoga helps:

- Releases tension from the feet
- Helps to activate and lift the arches
- Creates strength and suppleness in the feet and supporting structures
- Enhances proprioception and balance

“The feet are the starting point of asana practice”

Leslie Kaminoff

The Knees



Hyperextension

- Knee moves past the point of neutral alignment but…

- Average is 5-6º

- Can lead to strain on ligaments

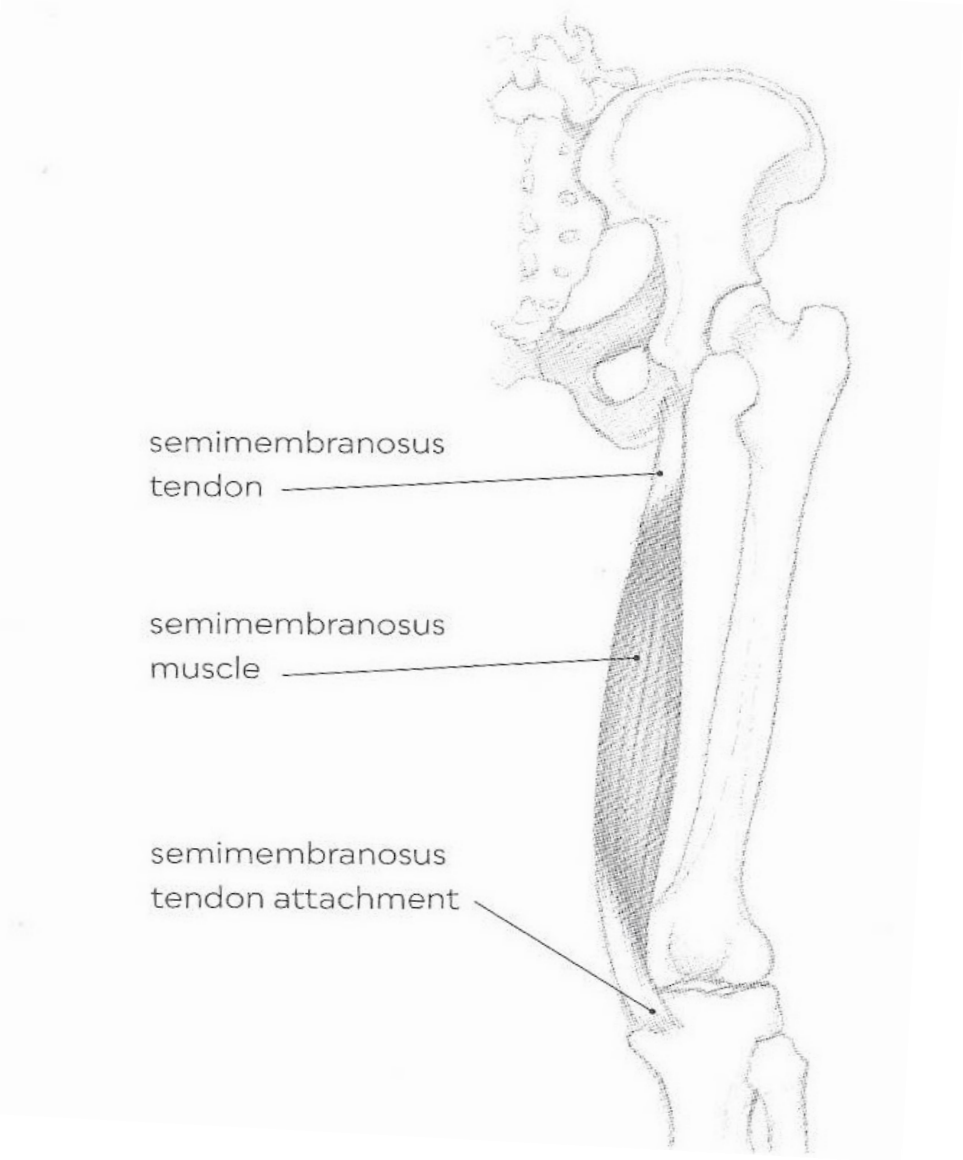


Image credit: Yoga Myths, Judith Hanson Lasater

Overstretching the knee

- Semimembranosus muscle = one of the hamstrings

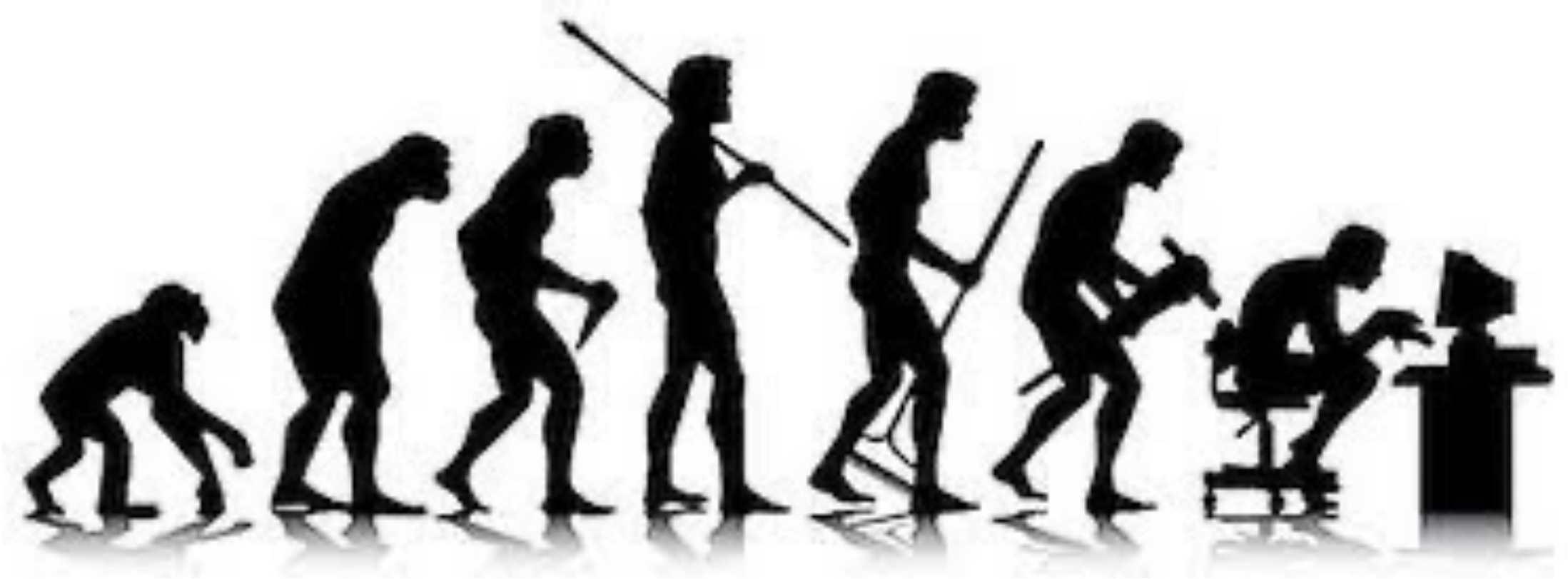
- Attaches to a ligament on the inside of the knee joint, which in turn attaches to the cartilage between the bones

- A healthy stretch is felt in the belly of the muscle, not near or in a joint.

- Prioritise alignment and stability over excessive range of movement

The Pelvis & Spine

Rediscovering your natural spinal curves



“It is only when the spinal column contains harmonious curves that it can move freely and function to support other structures of the body with the help of gravity” Donna Farhi

Structure of the spine

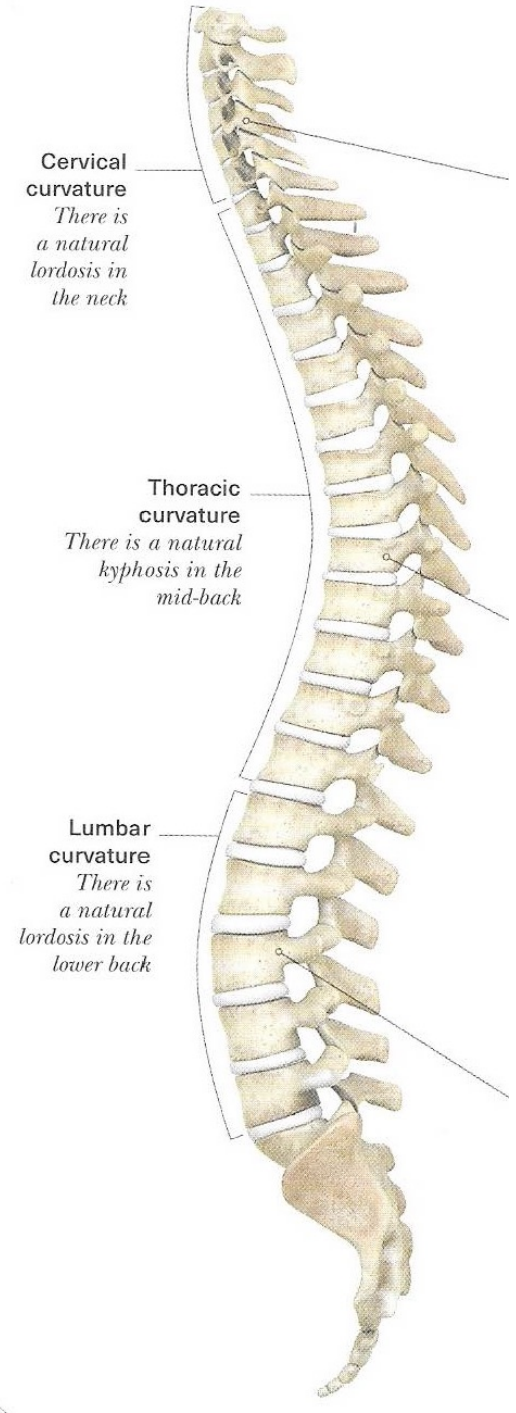
• 5 regions – 33 vertebrae

Movable regions:

- Cervical: 7 vertebrae (C1 – C7)
- Thoracic: 12 vertebrae (T1 – T12)
- Lumbar: 5 vertebrae (L1 – L5)

Fixed regions:

- Sacrum: 5 fused vertebrae (S1 – S5)
- Coccyx: 4 fused vertebrae



Forward head

- For every inch of forward head posture, the weight of the head is increased by 10 pounds (there are 14lb in a stone!)

- May manifest as muscular tension and pain, nerve compression, headaches

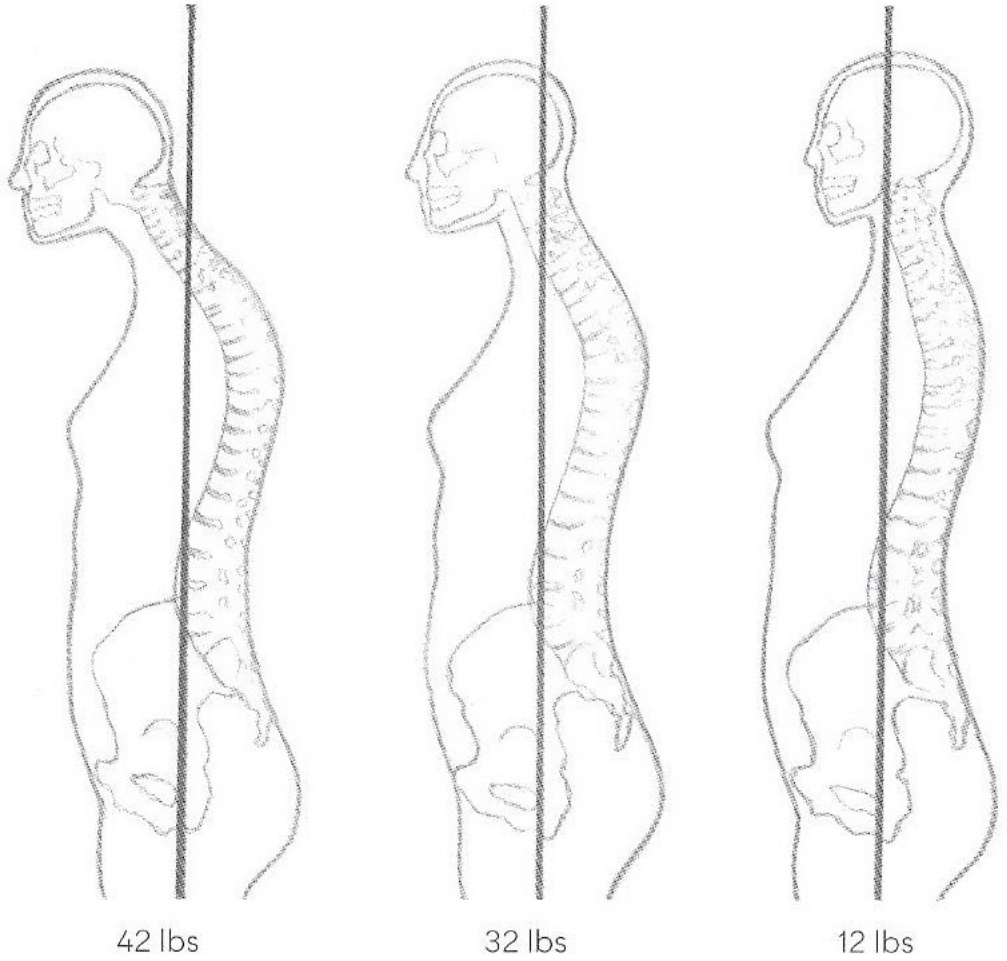
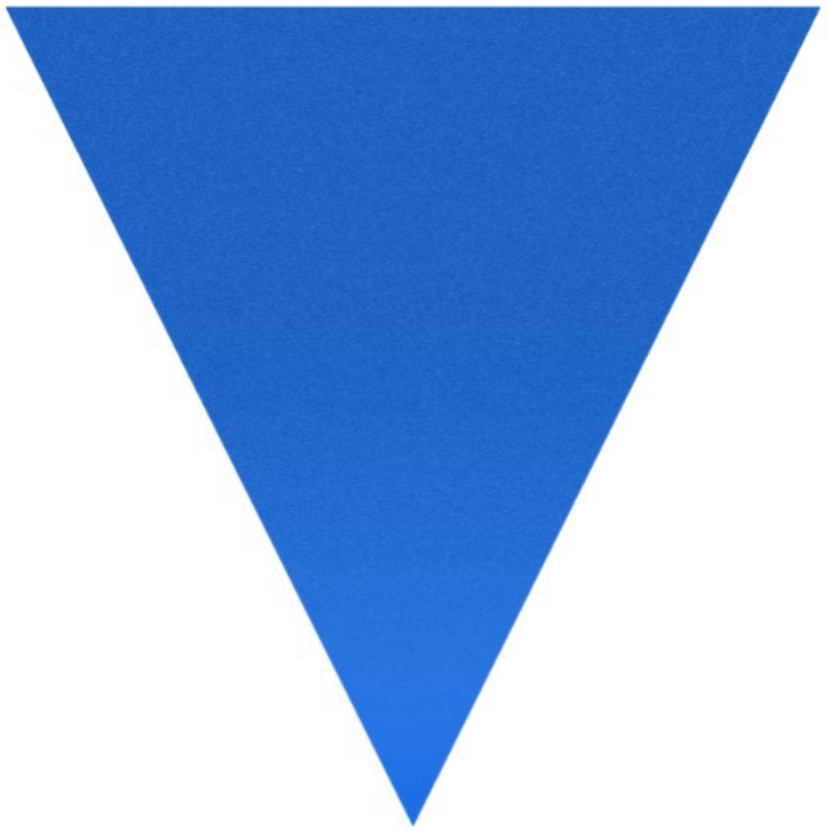


Image credit: Yoga Myths, Judith Hanson Lasater

Lumbar Spine & spinal load

- The lumbar is sturdy and resilient, bearing much of the weight of the upper body.
- Spinal load is important to consider, particularly in seated postures
- The spatial position of our body affects the load on the lumbar spine

Greatest lumbar load

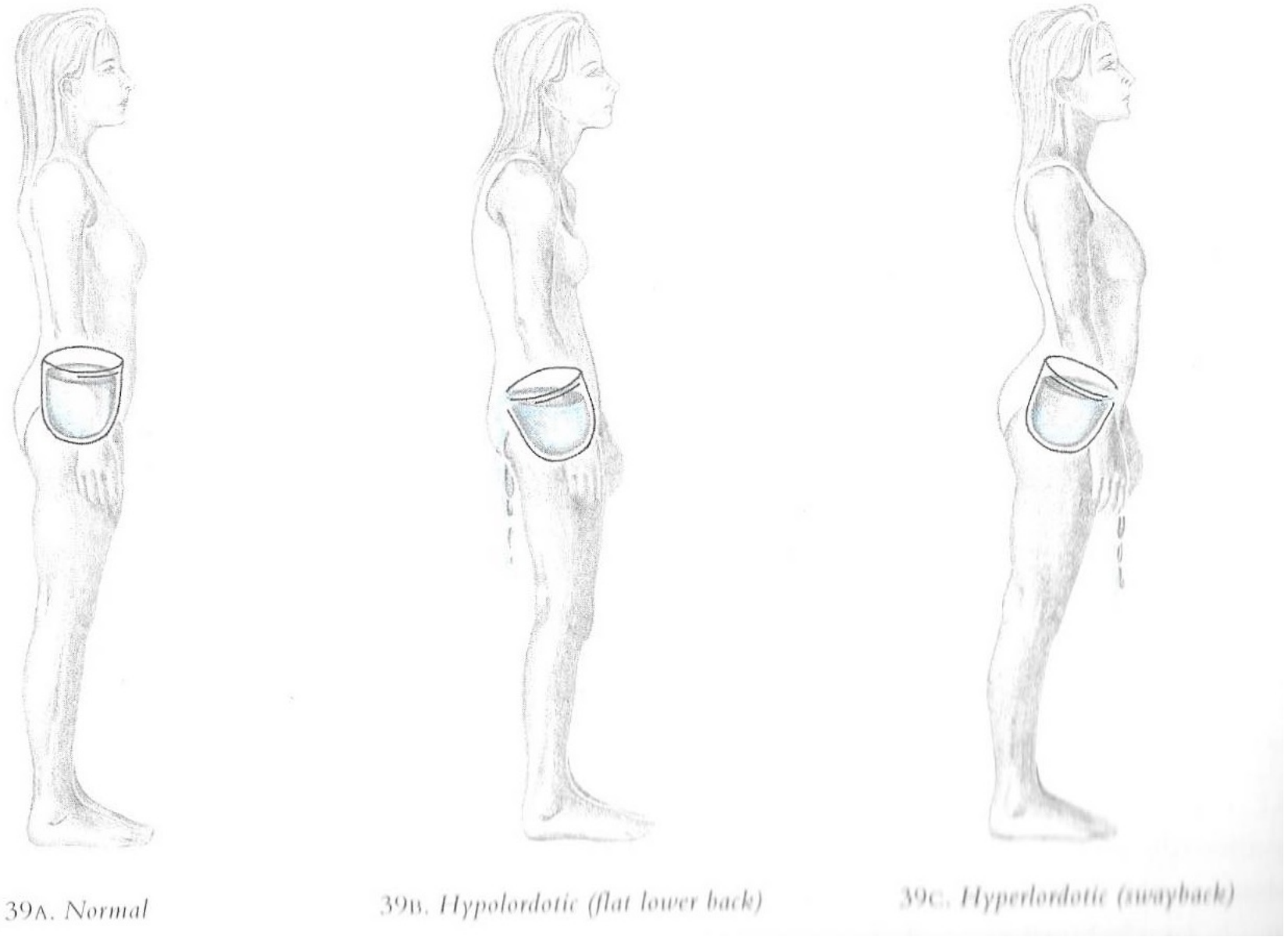


Least lumbar load

Sitting + forward bending
Standing + forward bending
Sitting
Standing
Table Top
Prone
Side lying
Supine

Rediscovering the natural curves of your spine

- Yielding to the earth (P35, Donna Farhi)
- Finding your neutral spine (P46 – Donna Farhi)
- Spinal elongation and riding the breath (P46 – Donna Farhi)
- Essential Skills - Standing Well (P88 – Donna Farhi)
- Centering the pelvis (P89 – Donna Farhi)



39A. *Normal*

39B. *Hypolordotic (flat lower back)*

39C. *Hyperlordotic (swayback)*

Image credit: Yoga Mind, Body & Spirit, Donna Farhi

“Instead of being fixated with the shape of an asana or even with our own standing posture, it is a great idea to spend more time getting to know our unique bodies, exploring both subtle and gross movements and focusing more on the experience of practicing yoga asanas rather than on their form. So, the next time you practice, experiment with the position of your pelvis and see how this affects your experience in each asana”.

Andrew McGonigle (Doctor Yogi)

References & Sources of Inspiration:

Bernie Clark, Your Spine Your Yoga

Leslie Kaminoff, Yoga Anatomy

Judith Hanson Lasater: Yoga Myths

Andrew McGonigle aka Doctor Yogi

Donna Farhi: Yoga Mind, Body & Spirit

Kristine Weber, Subtle Yoga Resilience Society

Steve Parker, Concise Human Body Book