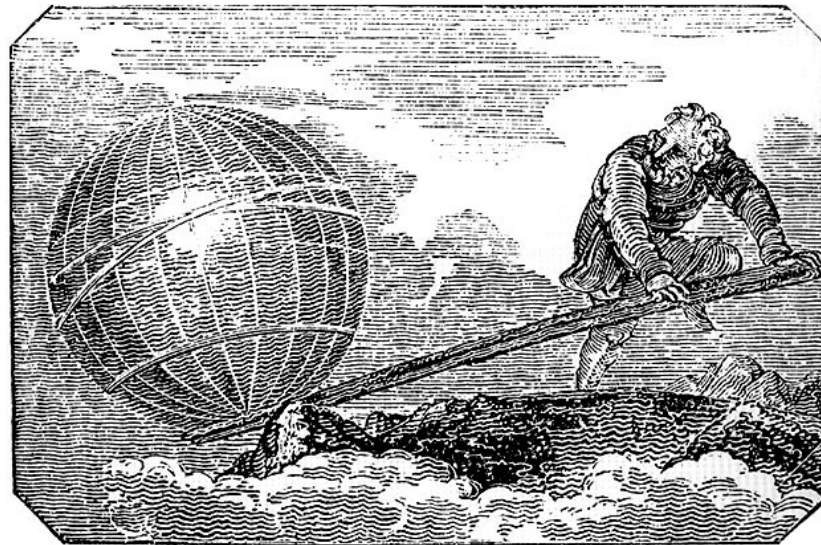


Shoe Sole Modifications Can Be More Powerful Than Foot Orthoses Because Of The Longer Lever Arm

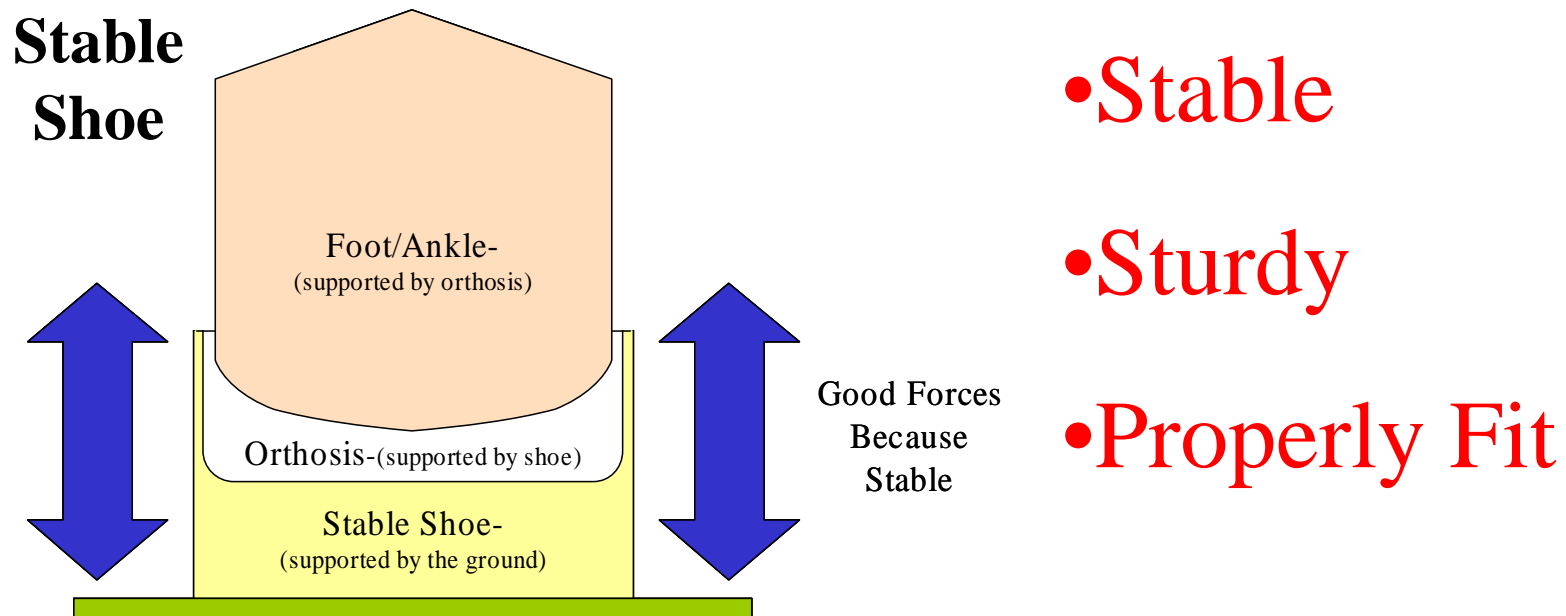


“Give me a place to stand and with a lever I will move the whole world.”

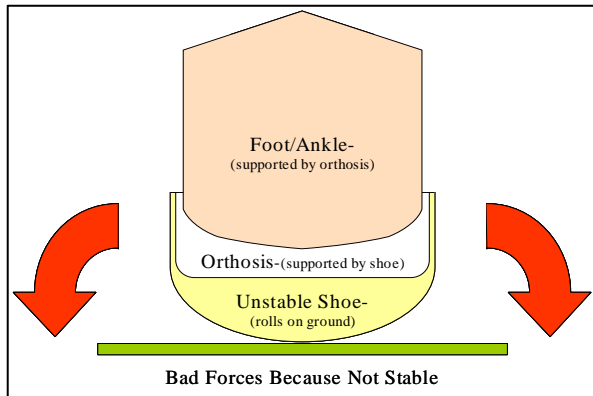
--Archimedes

Beginning Point For A Shoe Mod

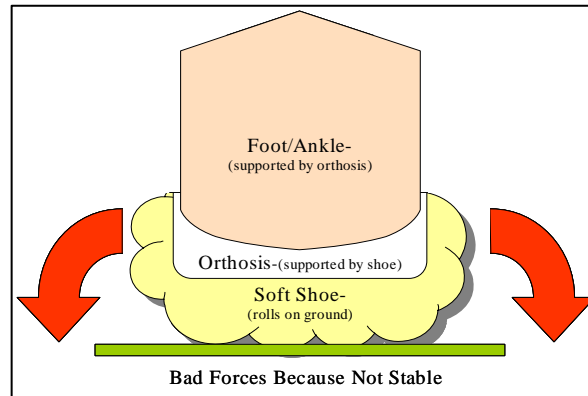
- Must start with an appropriate shoe



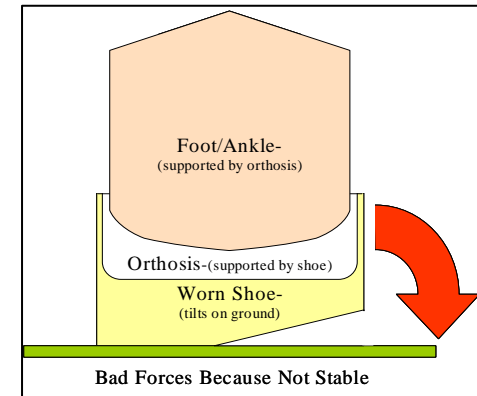
Shoes You Don't Want



**Unstable
Shoe**



**Soft
Shoe**



**Worn
Shoe**

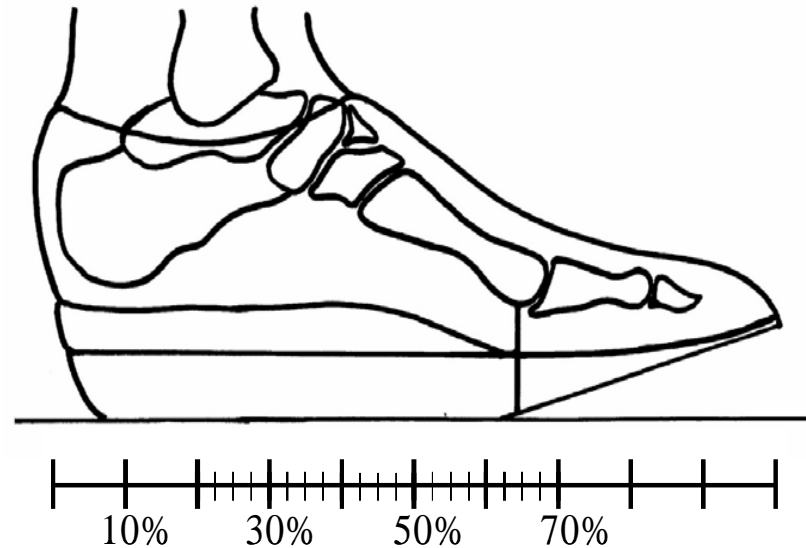
Rocker Soles

- Very Powerful Levers
- Depending on placement & shape, can:
 - Change the timing of gait cycle and/or stride length
 - Restore ROM lost in the foot or ankle
 - Unload sensitive parts of the foot
- All about setting the fulcrum (pivot) so that the person can “get over” their foot effectively.

Rocker Soles-Two Pictures

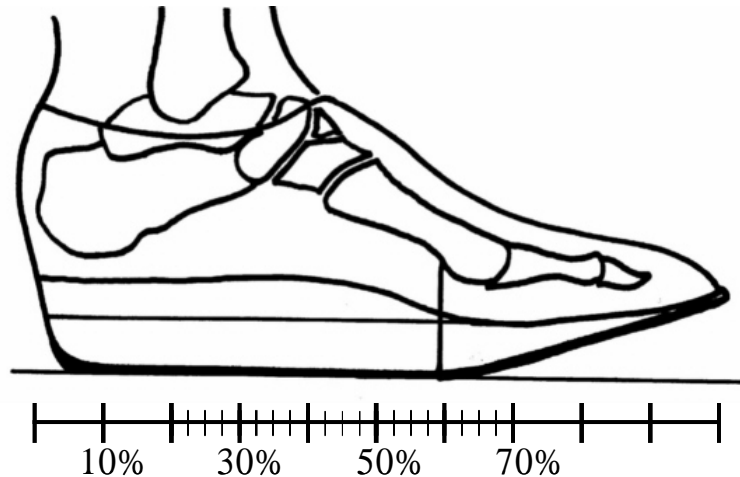


Rocker Soles-MPJ Rocker



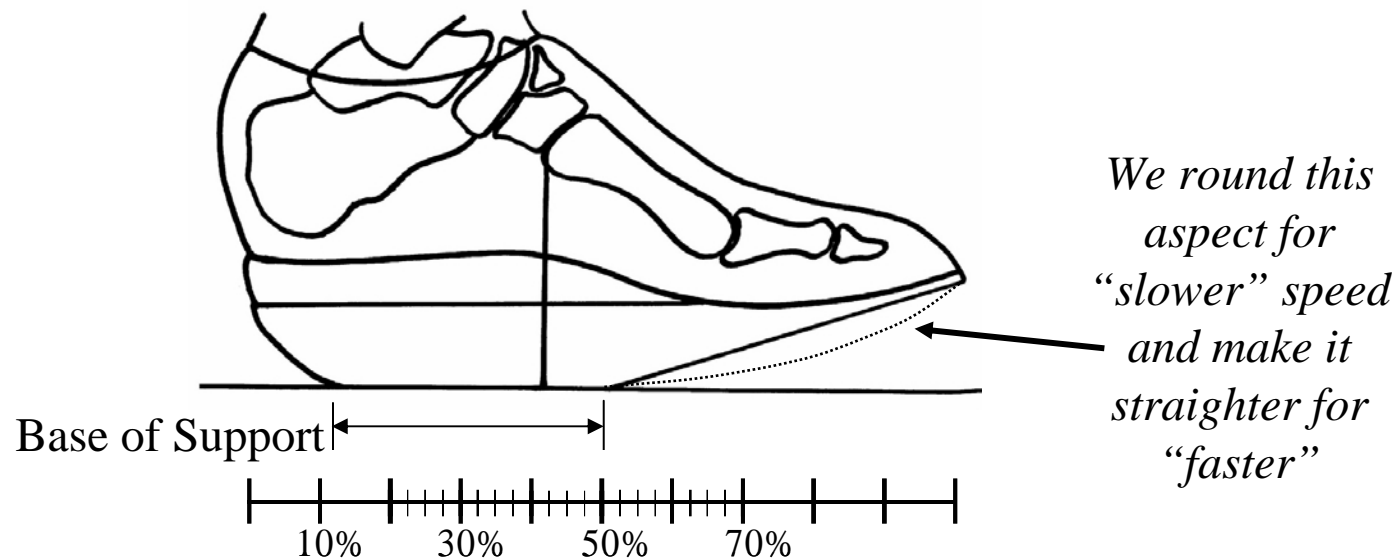
- ***Richey & Co. uses this rocker for LLD and/or compensation issues, only.*** A MPJ ROCKER inhibits the demand for dorsiflexion of the toes. The fulcrum is at the metatarsal head and roll-off is at the most distal point where the foot leaves the ground.
- When you add an elevation to a shoe, you stiffen the sole, making it difficult for the patient to dorsiflex their toes—this rocker allows the patient to “get over” their toes.

Rocker Soles-MET-HEAD Rocker



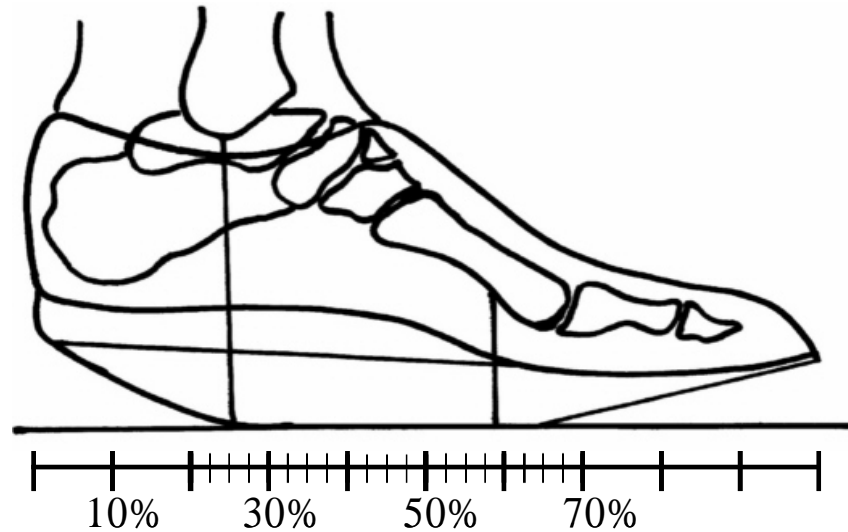
- ***Richey & Co. uses this rocker for all forefoot pain/issues, including forefoot ulcers.*** The MET-HEAD ROCKER reduces ground-reactive force to the metatarsal heads. Its fulcrum is proximal to the metatarsal heads. It is useful for metatarsal head problems such as metatarsalgia or lesions on the ball of the foot, as well as any other forefoot pain issue.
- If it is necessary to immobilize forefoot arthritis (hallux rigidus/limitus)—then a shank should be added. This shank keeps the toes from dorsiflexing, but the rocker sole allows the patient to “get over” their foot.
- If providing metatarsalgia relief, no shank is needed except for very heavy patients.
- If unloading forefoot ulcers, the apex may need to be moved more proximal, depending on the size and location of the ulcer.

Rocker Soles-ANKLE JOINT Rocker



- ***Richey & Co. generally uses a roller on the front and back of this rocker to make the gait cycle more fluid. We also generally move the apex more proximal than shown here.***
- An ANKLE JOINT ROCKER inhibits the demand for motion in the ankle joint. Normally plantar-flexion of the ankle joints occurs immediately after heel contact and dorsiflexion just prior to heel lift. A 30-degree roll-up of the heel delays plantar-flexion of the ankle joint enabling the accelerating tibia to maintain a constant angle to the foot.

Rocker Soles-HEEL Rocker



- The HEEL ROCKER reduces ground-reactive force to the heel by advancing heel contact to a fulcrum at the cuboid area. It is used in conjunction with an increase of the heel pitch to shift weight forward.

Rocker Soles And Shanks

- If you need to stiffen the forefoot of the sole of the shoe with either a steel or carbon/fiberglass shank to limit 1st Ray Extension, you need a rocker sole to replace the lost motion.
- Steel is stronger, but heavier and more expensive
- Carbon is lighter, but weaker/more flexible.
- For heavy patients—we use a wide carbon shank for rigidity, but there is still some flex.