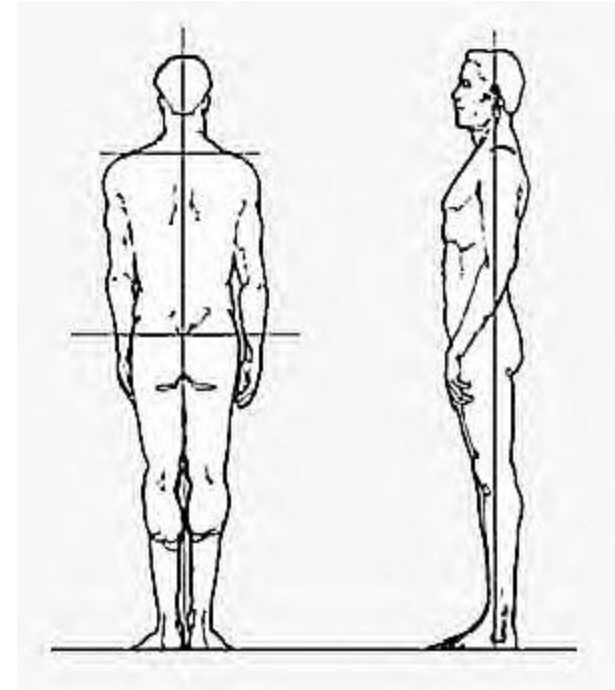


Biomechanical Assessment for the Prevention of Musculoskeletal Disorders in Football Player

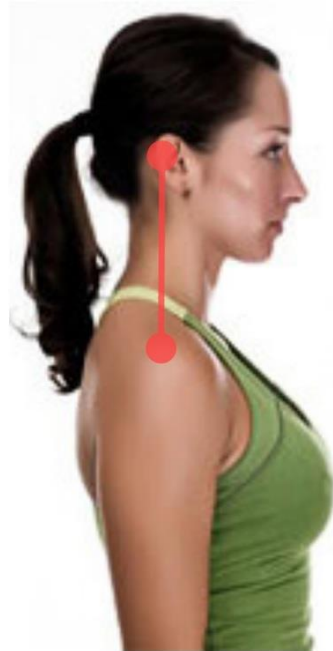
Ph.D Ehsan Arjmandhaghghi
candidate in Biomechanics
IFMARC 1/4/17

Biomechanical Assessment

- Foot:
 - Gait
 - Bare foot
 - Ankle
 - Knee
 - Pelvis
- Spine:
 - Lumbar
 - Lower thoracic
 - Upper thoracic
 - Cervical
- Shoulder
- Head



Forward Head



Correct Head Posture



Forward Head Posture

Rounded Shoulders



Scoliosis

Adolescent Thoracic
Scoliosis



© Veritas Health, LLC

Hyper Kyphosis

Hyper Lordosis

Normal spine



Lordosis
of the spine



Exaggerated
lumbar
curve

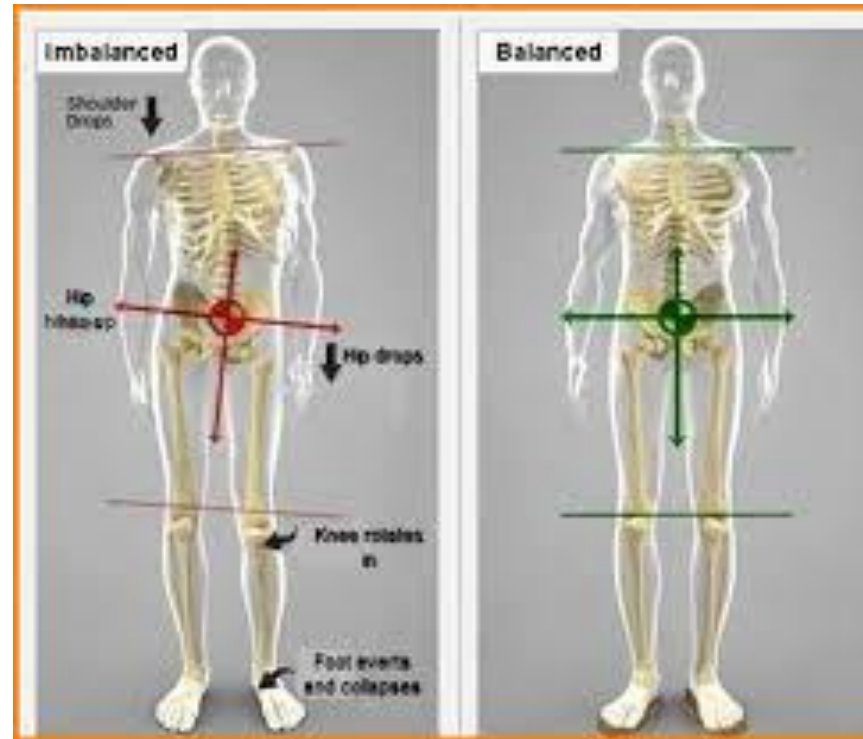
Kyphotic spine



Normal spine

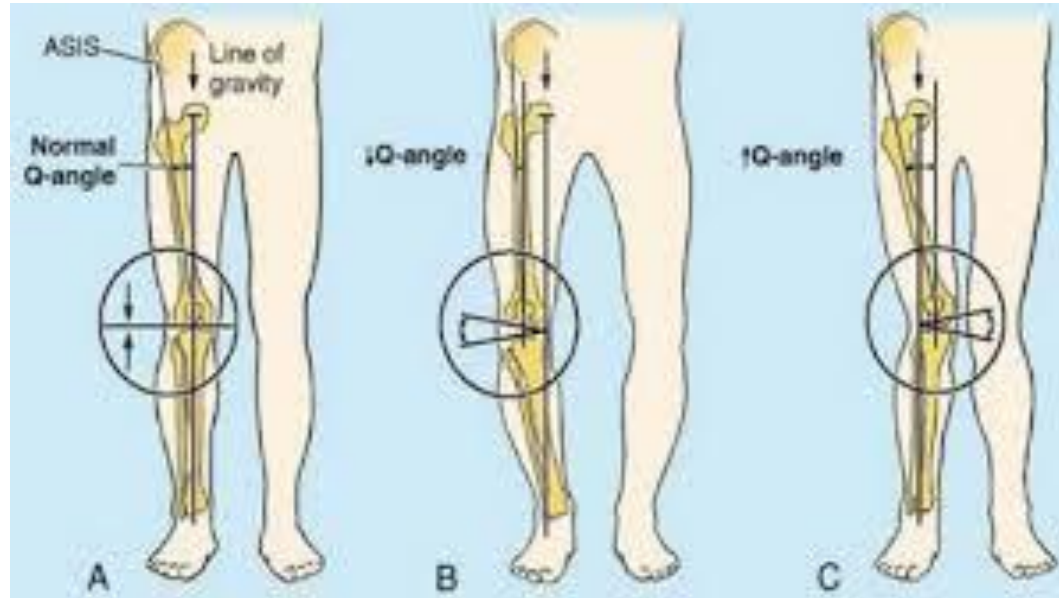


Imbalanced



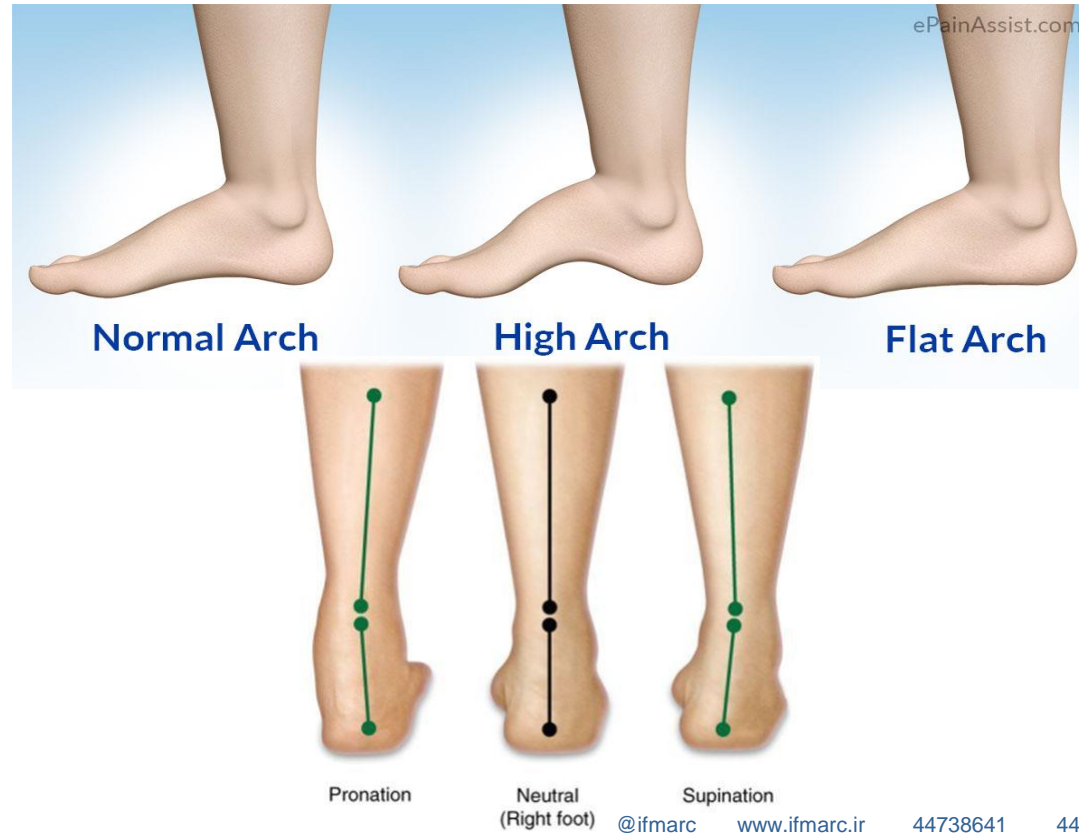
Genovarum

Genovalgum

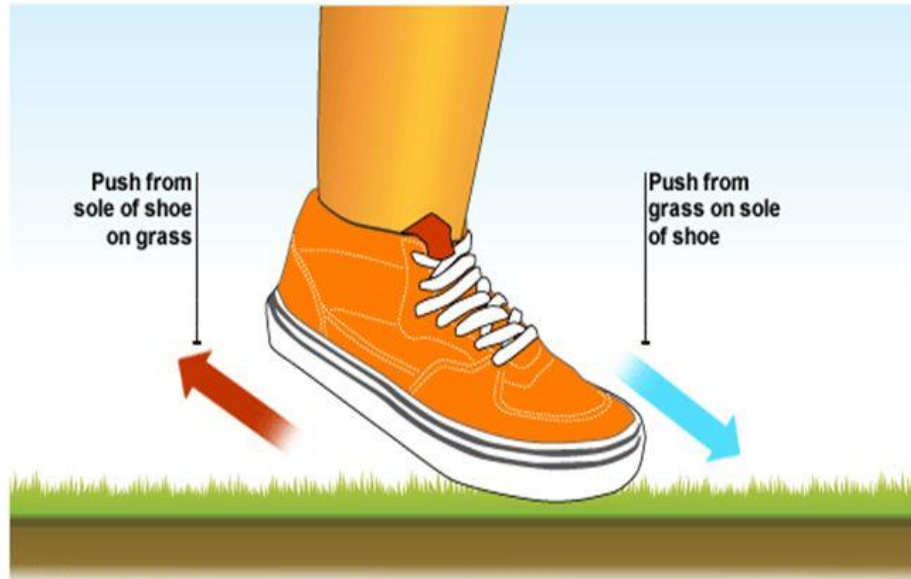


Plantar Scan:

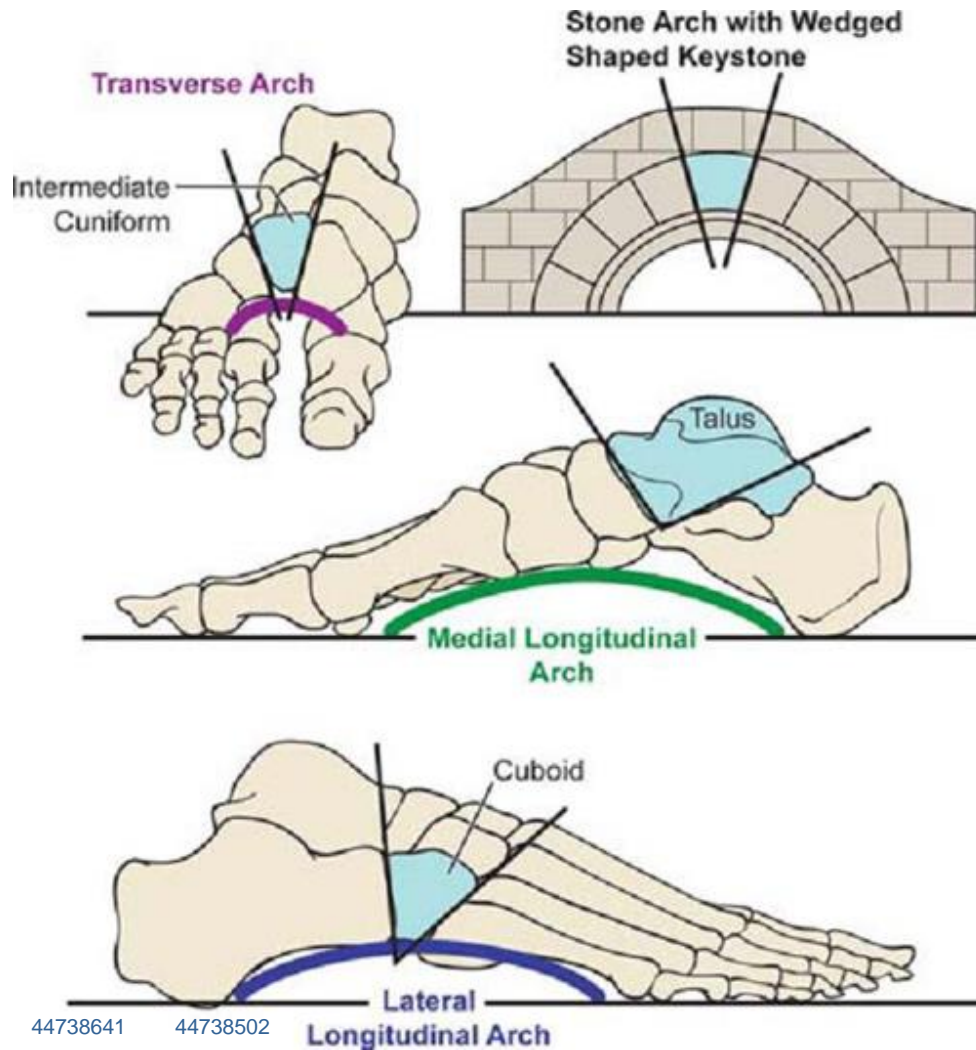
- Pes Planus
- Pes Cavus
- Pronation
- Supination



- ▶ Newton's third law of motion states that if one object exerts a force on another object, then the second object exerts a force of equal strength in the opposite direction on the first object.



Biomechanics in Football



Foot Orthotics



Prefabricated

Foot Orthotics

Custom-made

Foot scan

Design

C.N.C Produce



Unsafe Range

Over pronation



Safe Range

Pronation / Supination



Right Foot



Thank you