Posture

What is posture?

Vertebral Alignment

- The spine has a series of counter-balancing anterior-posterior curves
- These curves:
  - Act as shock absorbers
  - Reduce the amount of injury

Lippert, p329
Postural Curves

Convex & Concave

• the reference point is the posterior aspect

• Cervical Lordosis
• Thoracic Kyphosis
• Lumbar Lordosis
• Sacral Kyphosis

• the reference point is the posterior aspect

Curves

► At birth, the entire spine is flexed

► **Primary Curves**: curves of the spine found at birth. Those that retain this flexed position are the ___________ and ___________.

► **Secondary Curves**: appear as the child grows. Cervical and lumbar spines become lordotic.

Disk Pressures in Various Positions
Standing Posture

Classically, ideal postural alignment (viewed from the side) is defined as a straight line that passes through the:
- Ear lobe
- Bodies of the cervical vertebrae
- Acromion
- Bodies of the lumbar vertebrae
- Slightly posterior to the hip joint
- Slightly anterior to the axis of the knee joint
- Just anterior to the lateral malleolus

Postural Assessment: Standing

**ANTERIOR VIEW**
- The head should be in midline. If not, why?
- The trapezius neckline should be equal on both sides
- The shoulders should be level
- The clavicles & AC joints should be level & equal
- There should be no protrusion or depression of the sternum or ribs

Postural Assessment: Standing

- Arms should be equidistant from the waist
- Carrying angle at each elbow should be equal
- The palms should face the body while in a relaxed position
- Iliac crest & ASIS height should be the same on each side
Postural Assessment: Standing

- Both patella should point straight ahead
- Knees should be straight
- Fibular heads should be level
- Two arches are present & equal in the feet
- The feet angle out equally
- No bowing of bone
- Bony & soft tissue contours are equally symmetric on the 2 halves of the body

Lippert, p332-333

Postural Assessment: Standing

**LATERAL VIEW**
- The earlobe should be in line with the acromion process
- Each spinal segment should have a normal curve
- Shoulders should not droop forward
- There should be no chest deformities
- In normal standing, the knees are usually slightly flexed (0-5°)

Lippert, p332-333

Postural Assessment: Standing

**POSTERIOR VIEW**
- Head should be in midline
- Shoulders should be level
- The spines & inferior angles of the scapula should be level & medial borders equidistant from the spine
- The spine should not have lateral curves
- The PSISs are level
- The gluteal folds are level

Lippert, p332-333
Postural Assessment: Standing

- Knees should be level
- Both achilles tendons should descend straight to the calcanei
- The heels should be straight
- Bowing of the femur or tibia should be absent

Sitting Posture

- Proper sitting posture involves maintaining the proper postural curves

Ergonomics
Supine Posture

• The least amount of intervertebral disk pressure
• What can we do to improve supine posture?

Prone Posture

• What can we do to improve prone posture?
• http://www.youtube.com/watch?v=qOoFjMyWyQ

Reference