**Integrated Postural Training**

- Understand neutral spine
- Observe postural deviations
- Improve firing sequence of the core muscles
- Train in all 3 planes
- Add resistance

**Common Postural Deviations**

- Lumbar Lordosis
- Thoracic Kyphosis
- Forward Head
- Good Posture

**“Neutral Spine” Depends on Strong Muscles**

- Local Muscles (Inner Unit):
  - Directly attach to spine
  - Provide stability and segmental control
- Global Muscle (Outer Unit):
  - Large torque producing muscles
  - Provide general stability

**Essentials To Posture Training**

- Establish a neutral spine
- Challenge the support structure surrounding the spine:
  - Change Position
  - Change Resistance
  - Change Speed
  - Change Vector
- Understand why muscles are “tight”

**Understanding Posture**

- Goals for exercise to improve posture:
  - Assess curvature of the spine.
  - Evaluate reason for deviations.
  - Help client achieve a neutral spine.
  - Challenge the supporting structures in various planes of motion.
Tall Standing Relaxed

- The plumb line should fall as follows:
  - The line begins at the ear.
  - Midway through the shoulder.
  - Through the lumbar spine.
  - Slightly posterior to hip joint.
  - Slightly anterior to the axis of the knee.
  - Slightly anterior to the ankle.

Lumbar Spine and Pelvic Posture

- Stand with the head, mid back, and hips against a wall.
- Slide your hand behind your back by the lumbar curve.
- Should be able to slide hand to about knuckles.

Anterior Pelvic Tilt

- Shortened Muscles:
  - Lumbar Extensors
  - Psoas
  - Rectus Femoris
  - Adductors
  - Tensor Fascia Latae
- Lengthened Muscles:
  - Abdominals
  - Hamstrings
  - Gluteus Max, Med, Min

Anterior Pelvic Tilt Corrections

Posterior Pelvic Tilt

- Shortened Muscles:
  - Hamstrings
  - Gluteus Maximus
  - Abdominals
- Lengthened Muscles:
  - Psoas
  - Iliacus
  - Lumbar Extensors

Posterior Pelvic Tilt Corrections
### Thoracic Spine
- **Shortened Muscles:**
  - Cervical Erectors
  - Pec Minor/Major
  - Upper Trapezius
  - Scalenes
  - Levator Scapulae
- **Lengthened Muscles**
  - Deep Cervical Flexors
  - Rhomboids
  - Serratus Anterior
  - Middle/Lower Trapezius

### Improving Thoracic Kyphosis

### Addressing Forward Head Posture
- Earlobe is anterior to AC joint.
- Often found with upper cross syndrome.
- Causes include:
  - Prolonged sitting
  - Improper desk set up
  - "Text neck"
  - Inefficient breathing
- Goals are to remove/limit causes & strengthen thoracic extensors and deep cervical flexors.

### Prone Chin Tuck W/ Thoracic Ext.

### Quadruped Chin Tuck

### Integrating Stability Training
- 1st Step With Stability Training is PREVENTING movement from occurring.
  - Anti Flexion
  - Anti Extension
  - Anti Lateral Flexion
  - Anti Rotation
Anti-Flexion Exercises

Bridge With Core Activation

Bridge Marching

Bird Dogs

Reverse Mt Climbers

Anti Flexion Press
Anti Extension Exercises

Dead Bugs

Reverse Plank

Plank Saw Variations

Anti-Extension Press

Anti Lateral Flexion Exercises