Posture Project

By: Steven Kong
Patient Profile

• **Name:**
  – Steven Kong
• **Height:**
  – 5’9 ½”
• **Weight:**
  – 182lbs
• **BMI:**
  – 26.3 (overweight)
• **Hip to Waist Ratio:**
  – 59
• **Blood Pressure**
  – 115/68
• **Resting Heart Rate:**
  – 57
• **Body Fat**
  – 13%

• *abnormalities found at end of posture evaluation and seen by superscript*
Posture Evaluation
Anterior View (AV)

- Plum alignment
  - Trunk
  - Head
- Yes
Lower Extremity (AV)

- **Arch**¹
  - Slight Pes Planus
- **Sub talar**
  - Neutral
- **Tibial Rotation**³
  - (L) External Rotated
- **Patella Position**⁴
  - (L) Frog Eyed (slightly)
- **Leg Position**
  - Neutral
- **Q angle**
  - 11 degrees (within normal)

- **Muscle mass**: symmetrical
Trunk/ Pelvis (AV)

- Iliac Crest: Symmetrical
- ASIS: Symmetrical
- Abdominals: No muscle difference
Upper Body (AV)

- Shoulder Position
  - Neutral

- Shoulder Heights$^5$
  - $\circledR$ depressed

- Head Position
  - Neutral

- Muscle Mass
  - Pecs$^6$
    - Left side more defined
  - Traps$^7$
    - Left side Higher
Posterior View (PV)

• Allignment with Plum line
  – Trunk
  – Head
• Yes
Lower Extremity (PV)

• Calcaneal Position
  – neutral

• Leg Position
  – neutral

• Muscle mass
  – Calves
    • © body lower
  – Thighs
    • symmetrical
Trunk/ Pelvis (PV)

- **Spinal Alignment**
  - Slight scoliosis
    - Between scapula
- **Iliac crest**
  - Neutral
- **PSIS**
  - neutral
Upper Body (PV)

- **Scapula Position**
  - normal

- **Elevation/Depression**
  - ® depression

- **Protraction/Retraction**
  - none

- **Rotation**
  - asymmetrical
  - Winging
    - ®
Lateral View (LV)

- Plum alignment
  - Bisects:
    - Lat. Mall
    - Lat. Fem. Condyle
    - Greater Trochanter
    - Mid-Thorax
    - Acromion Process
    - Cerv. Vert. Bodies
    - Ex. Aud. Meatus

- Joint Positions
  - Neutral
    - Talocrural
    - Knee
    - Pelvic
Trunk (LV)

- **Shoulder Position**
  - Slightly forward
- **Head Position**
  - Slightly forward
- **Lumbar Spine**
  - Concave
- **Thoracic Spine**
  - Convex
- **Cervical Spine**
  - Concave
Abnormalities

1) BMI
   - Overweight, doesn’t count in muscle weight.
2) H/W ratio
   - Moderate risk, doesn’t count body composition.
3) Tibial Rotation
   - Tibia is externally rotated possibly due to genetics or previous injury to ankle.
     • To help correct possible joint mob. to allow ankle to and tibia to return to normal position.
Abnormalities

- **4) Patella Rotation**
  - Frog eyed patella, mainly caused by tibial rotation.
    - Possible correction include fixing tibial rotation or strengthening VMO.

- **5) Shoulder Depression**
  - Depressed shoulder, due to dominant arm. Not really a way to correct.

- **6) Pec muscle**
  - Greater definition in one pec, and asymmetry between muscles maybe caused by lack of strength of scoliosis of back or genetics.
    - Possible Correction by strengthening pecs, stretching back muscles, correcting scoliosis.
Abnormalities

• 7) Trap Muscle
  – Greater height in trap and more definition of left trap, maybe due to lack of strength or tightness, or genetics.
    • Stretch or strengthen to fix.

• 8) Calf muscle
  – Muscle length deviation possibly caused by genetics.
    • Stretching of muscle may help correct

• 9) Scoliosis
  – Slight curvature in back between scapulas. Unknown cause, possibly genetics or poor posture.
    • Strengthening back muscles, proper posture.
Abnormalities

• 10) Scapular Winging
  – Scapular rotates at greater pace than other side. Mainly due to playing throwing sport.
    • Increase muscle strength, i.e. rhomboids.

• 11) Shoulder position
  – Slight forward lean of shoulders, possibly caused by tight pec minor or weak back muscles.
    • Strengthen back muscle and stretch pec minor.

• 12) Head position
  – Slight forward lean, possibly caused by tight scalenes.
    • Stretch scalenes.
## Flexibility (Lower)

<table>
<thead>
<tr>
<th>Muscles</th>
<th>Active(degrees)</th>
<th>Passive(degrees)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ankle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Dorsiflexion*</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>– Plantarflexion</td>
<td>50</td>
<td>56</td>
</tr>
<tr>
<td>– Inversion*</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>– Eversion*</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td><strong>Knee</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Flexion</td>
<td>135</td>
<td>140</td>
</tr>
<tr>
<td><strong>Hip</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Flexion</td>
<td>125</td>
<td>145</td>
</tr>
<tr>
<td>– Extension</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>– Abduction</td>
<td>47</td>
<td>63</td>
</tr>
<tr>
<td>– Internal Rotation</td>
<td>45</td>
<td>53</td>
</tr>
<tr>
<td>– External Rotation*</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>
Flexibility (upper)

<table>
<thead>
<tr>
<th>Shoulder</th>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexion</td>
<td>165</td>
<td>175</td>
</tr>
<tr>
<td>Extention</td>
<td>42</td>
<td>56</td>
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<tr>
<td>Abduction</td>
<td>180</td>
<td>196</td>
</tr>
<tr>
<td>Internal Rotation*</td>
<td>42</td>
<td>45</td>
</tr>
<tr>
<td>External rotation*</td>
<td>48</td>
<td>70</td>
</tr>
</tbody>
</table>
Normal ROM*

• Ankle
  – Dorsiflexion = 20
  – Plantarflexion = 50
  – Inversion = 20
  – Eversion = 5

• Hip
  – Flexion = 125
  – Extension = 15
  – Abduction = 47
  – In. Rotation = 45
  – Ex. Rotation = 50

• Knee
  – Flexion = 140

• Shoulder
  – Flexion = 175
  – Extension = 55
  – Abduction = 175
  – In. Rotation = 85
  – Ex. Rotation = 95

**ROM deficits**

- Dorsiflexion
  - Weak dorsiflexors or tight plantar flexors
- Excessive Inversion
  - Recurrent inversion ankle sprains
- Excessive Eversion
  - Previous injury: eversion ankle sprain
- Hip Ex. Rotation
  - Weak ex. Rotators or tight in. rotators
- Shoulder In. Rotation
  - Previous history of pitching
  - Book not account for scapular movement
- Shoulder Ex. Rotation
  - Previous history of pitching
  - Book not account for scapular movement
Fitness

- Curl ups
  - 1 min, 50 beats, 1 crunch per 2 beats
    - 25
      - Excellent
- Push ups
  - Number of push ups without stopping and following form
    - 22
      - Good

• Analysis:
  - After fitness muscular endurance testing, I have good muscular endurance in my abdomen, while there is decrease in strength in pectoralis muscles. This could have been do to the lack of activity at testing position