Postural Adaptations & Movement Patterns

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Postural Restoration Institute

- What is the Postural Restoration Institute?
  - www.posturalrestoration.com

- PRI Mission
  - To explore postural adaptations and asymmetries and their influence on the polyarticular chains of the body

Disclaimer

- All pictures and diagrams were used with permission of the Postural Restoration Institute

- We are not representatives of the Postural Restoration Institute and do not receive any form of compensation from this presentation
Agenda

- Asymmetry
- Diaphragm / Respiration
- Polyarticular Chains
- Clinical Application

Asymmetry

“The human body is balanced through the integration of system imbalances.”

- Torso
  - Balanced through organ location
    - Liver on right, heart on left, etc.
- Extremity Dominance
  - Balanced through reciprocal function
    - GAIT - Right arm moves w/ left leg (vice versa)

Static Asymmetry

<table>
<thead>
<tr>
<th>Right</th>
<th>Left</th>
</tr>
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<tbody>
<tr>
<td>Diaphragm</td>
<td>Diaphragm</td>
</tr>
<tr>
<td>Attaches 1-2 lumbar levels lower than the left</td>
<td>Smaller central tendon</td>
</tr>
<tr>
<td>Larger central tendon</td>
<td>Left dome (5th intercostal space)</td>
</tr>
<tr>
<td>Right dome (4th intercostal space)</td>
<td>Heart positioned in left mediastinum</td>
</tr>
<tr>
<td>Liver positioned in right abdominal cavity</td>
<td>2 lobes of lung on left</td>
</tr>
<tr>
<td>3 lobes of lung on right</td>
<td>Vagus nerve shorter on left</td>
</tr>
<tr>
<td>Vagus nerve longer on right</td>
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</tbody>
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Dynamic Asymmetry
- Acquired dynamic dominance
- Greater ZOA at the right diaphragm
- Early development of strong unilateral reaction skills
- Motor area of left frontal lobe controls the contralateral side

Diaphragm / Respiration
- Optimal vs Sub-Optimal ZOA

Polyarticular Chains
- Anterior Interior Chain
- Brachial Chain
- Posterior Exterior Chain
- Temporomandibular Cervical Chain
Anterior Interior Chain

- Diaphragm
- Psoas
- Iliacus
- TFL
- Biceps Femoris
- Vastus Lateralis

Brachial Chain

- Triangular Sterni
- Sternoleidomastoid
- Scale
- Pectoralis Minor
- Intercostals
- Muscles of Pharynx
- Diaphragm

Posterior Exterior Chain

- Latissimus Dorsum
- Quadratus Lumborum
- Posterior Intercostals
- Serratus Posterior
- Iliocostalis Lumborum
Clinical Goals

- Reposition
- Retrain
- Restore Function

Reposition

- **Position**
  - Triplanar position of any part of the body at any given time (static or dynamic)
  - “Neutral” Position
    - A state of the autonomic nervous system
    - Shifted toward parasympathetic but can freely alternate between sympathetic and parasympathetic states.

- **Reposition**
  - Repusitus – to put back or replace
  - Sacrum, sternum, sphenoid at a physical and physiological state of rest

Restore Function

- **Function**
  - GAIT
  - Left vs Right
Clinical Application
- Evaluation
- Clinical tests
- Non-manual techniques
- Manual techniques
- Reference centers

Evaluation / Clinical Testing
- Adduction Drop Test
- Hruska Adduction Lift Test (HALT)
- Straight Leg Raise Test
- Extension Drop Test
- Trunk Rotation Test
- Functional Squat Test
- HG IR/ABD/Flexion

Non-Manual Techniques
- Unlike manual techniques
  - Hands off
  - Allow athletes to “find and feel” new position
- Use clinical tests to guide treatment plan
- Determine pattern
  - LAIC, RBC, PEC, RTMCC
- Create new pattern
- Retrain system
Reference Centers

- Contact points AKA “Stabilization Centers”
  - Right medial longitudinal arch
  - Left posterior calcaneal tuberosity
  - Left ischial tuberosity
  - Left anterior acetabular femoral capsule
  - Left IO’s / TA’s / Posterior lower ribcage
  - Right lateral posterior upper ribs
  - Right scapula
  - Tongue

QUESTIONS???

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