

Respiratory Control:
A Workbook for Physical Therapists & Trainers
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Outline

- The importance of respiratory control
- Basic anatomy & physiology
- Functional anatomy
- The stability – motor control continuum
- The diaphragm & the core
- Basic Assessment & Breathing
- Integrated stability through optimal movement & respiration

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Who Am I?

Who Am I?



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The Importance of Respiratory Control

- Breathing: The first answer... the final answer
- The new "active release"
- Functional joint centration
- Stability – Motor Control
- Intra-abdominal pressure
- Rehabilitation, training & performance



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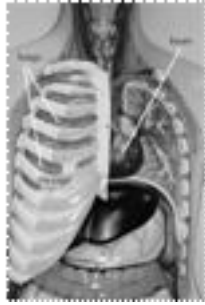
Respiratory Control in Performance



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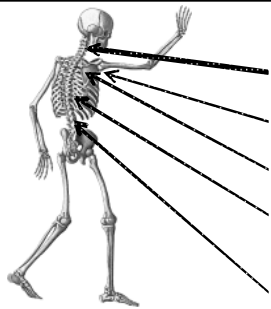
Basic Anatomy & Physiology

- Involves both the thoracic and abdominal cavities
- Left and Right hemidiaphragms
- Voluntary control
 - Cerebral cortex
- Involuntary control
 - Brain stem
- Receptors



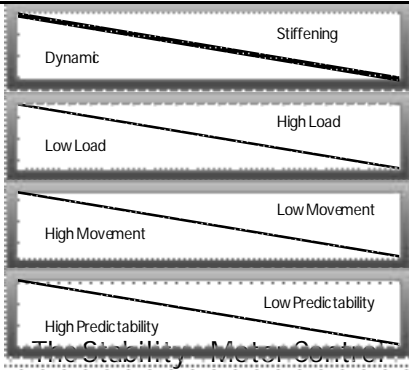
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Functional Anatomy



- Cervical:** Stability
- Glenohumeral:** Mobility
- Scapulothoracic:** Stability
- Thoracic:** Mobility
- Lumbar / Core:** Stability

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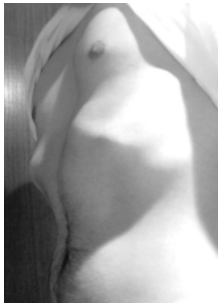
The Stability-Motor Control Continuum

The Diaphragm & The Core

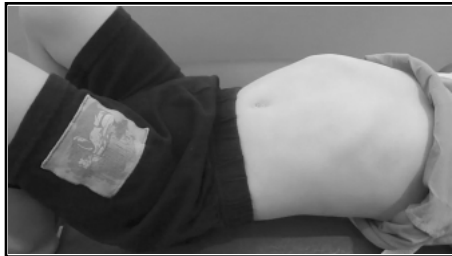


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Rib Flare



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2 1/2 year old boy

•Neurodevelopmental left extremity presentation

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Visual Examination

- Faulty patterns
 - Inspiratory position
 - Neck muscle hypertonicity
 - Shoulder protraction
 - T-L junction hyperextension
 - Rib flare – bilateral, unilateral



- Seated
- Supine
- Prone

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Expiratory Position Test

- Supine
- EP test with upper limb movement
 - Supine
 - Seated
 - Standing



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Expiratory Position Test – Arm Lift

Seated – Supine – Standing

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Expiratory Position Test
-Supine

Dead Bug Position

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Mobility

Costothoracic

- Manual therapist
- Self Release
- Self Mobilization

Scapulothoracic

- Band dislocates
- Wall angel
- Fieldgoal-slide on roller

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Manual Therapy

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Self Release

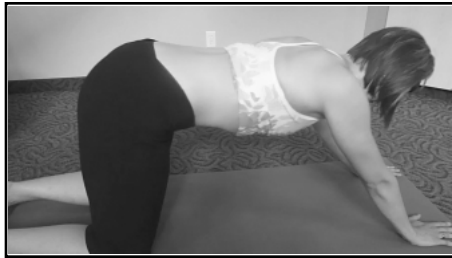
- ◀ Good Form
- ▶ Bad Form

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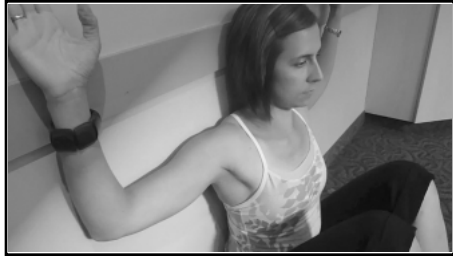
Self Mobilization

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Quadruped Glenohumeral Mobility

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Wall Angel

- ◀ Good Form
- ▶ Bad Form

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Foam Roll – Field Goal / Angel

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Basic Respiratory Training

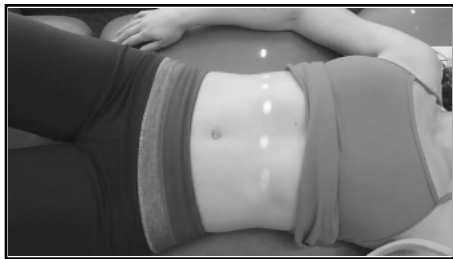
- Seated
- Supine
- Prone
- Balloon breathing

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Seated

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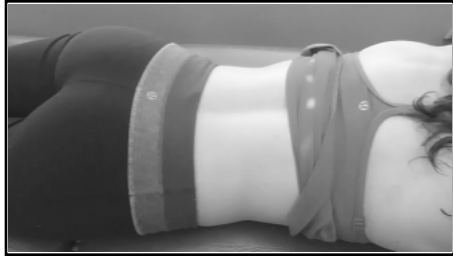
Supine - Knees bent

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Prone

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Prone

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Balloon Breathing

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Integrated Stability Through Optimal Movement & Respiration

- Dying Bug
- Kolar Dying Bug
- Ball Rollout
- Plank Walkout
- Turkish Getup



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Dying Bug - Variation

This is also a test of the expiratory position
intra-abdominal pressure

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Kolar's Dying Bug

Use of arms to support expiratory position

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Ball Rollout - Beginner

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Ball Rollout - Intermediate

- ◀ Good form
- ▶ Bad form

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For the advanced





Plank Walkout

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Turkish Get Up

- ◀ Neghar Farnoodi
- ▶ Optimum Performance Training Institute

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