

Respiratory Control:

Linking breathing with rehabilitation & training

Jeff A. Cubos BPHE MSc DC FRCCSS(C) CSCS



www.jeffcubos.com

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

Who Am I?

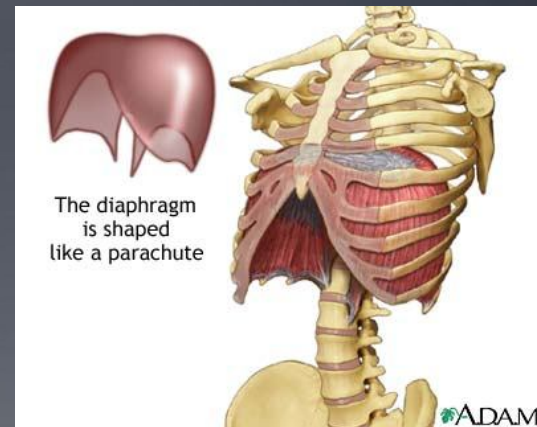


Who Am I?



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

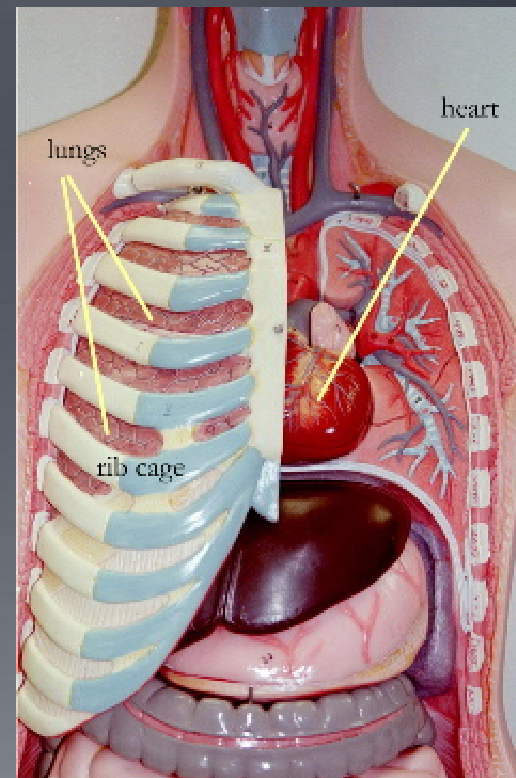


Respiratory Control in Performance

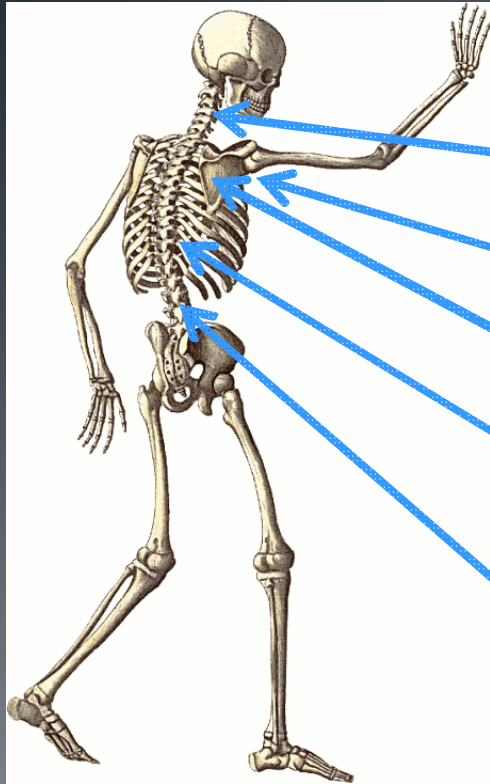


Basic Anatomy & Physiology

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



Functional Anatomy



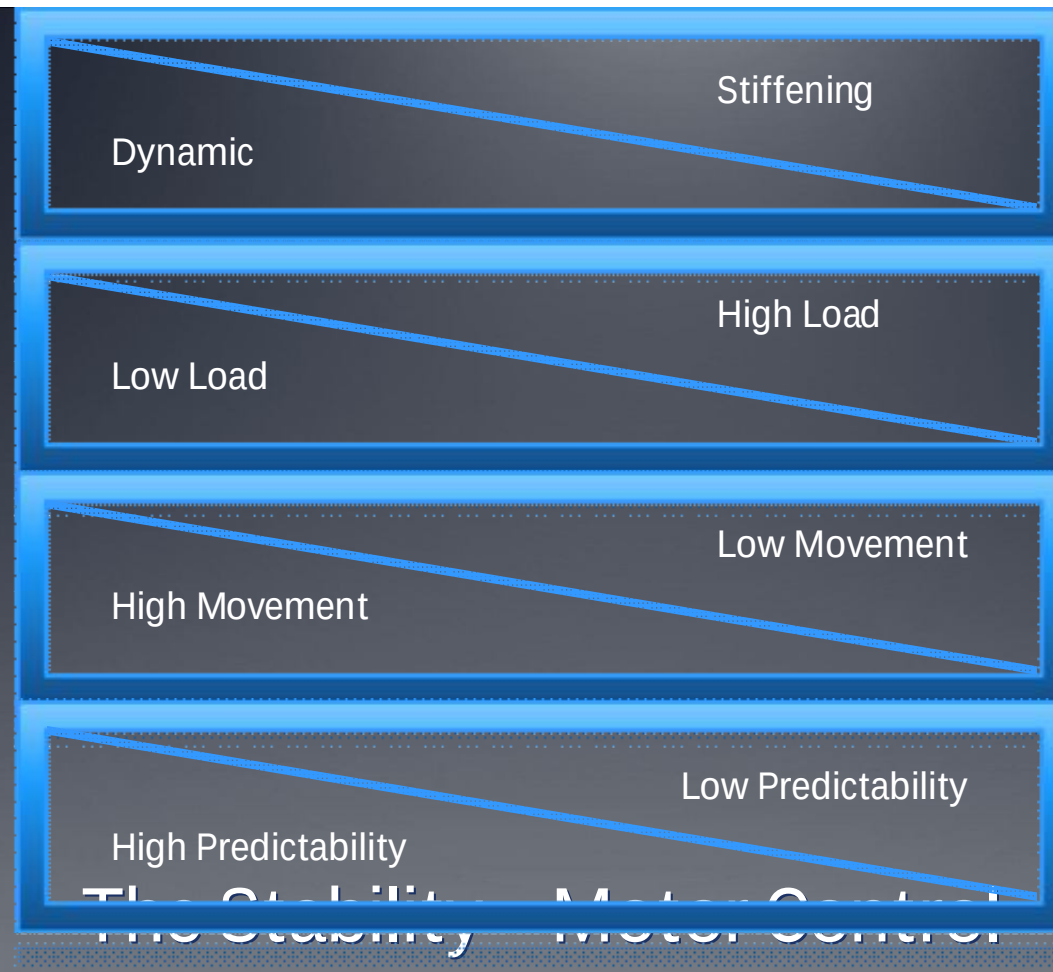
Cervical: *Stability*

Glenohumeral: *Mobility*

Scapulothoracic: *Stability*

Thoracic: *Mobility*

Lumbar / Core: *Stability*



The Diaphragm & The Core

The Mechanics of Respiration

Isolated View of Diaphragm in Motion
Video Demo

www.3D-Yoga.com

Rib Flare





2 ½ year old boy

- Neurodevelopmental left extremity presentation

Visual Examination

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



Expiratory Position Test

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





Expiratory Position Test – Arm Lift

Seated – Supine – Standing



Expiratory Position Test – Supine

Dead Bug Position

Mobility

Costothoracic

- Manual therapist
- Self Release
- Self Mobilization

Scapulothoracic

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



Manual Therapy



Self Release

- Good Form
- Bad Form



Self Mobilization



Quadruped Glenohumeral Mobility



Wall Angel

- Good Form
- Bad Form



Foam Roll – Field Goal / Angel

Basic Respiratory Training

- Seated
- Supine
- Prone
- Balloon breathing



Seated



Supine – Knees bent



Prone



Prone



Balloon Breathing

Integrated Stability Through Optimal Movement & Respiration

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





Dying Bug - Variation

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



Kolar's Dying Bug

Use of arms to support expiratory position



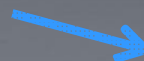
Ball Rollout - Beginner



Ball Rollout - Intermediate

- Good form
- Bad form

For the advanced





Plank Walkout



Turkish Get Up

Neghar Fonooni

•Optimum Performance Training Institutel

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