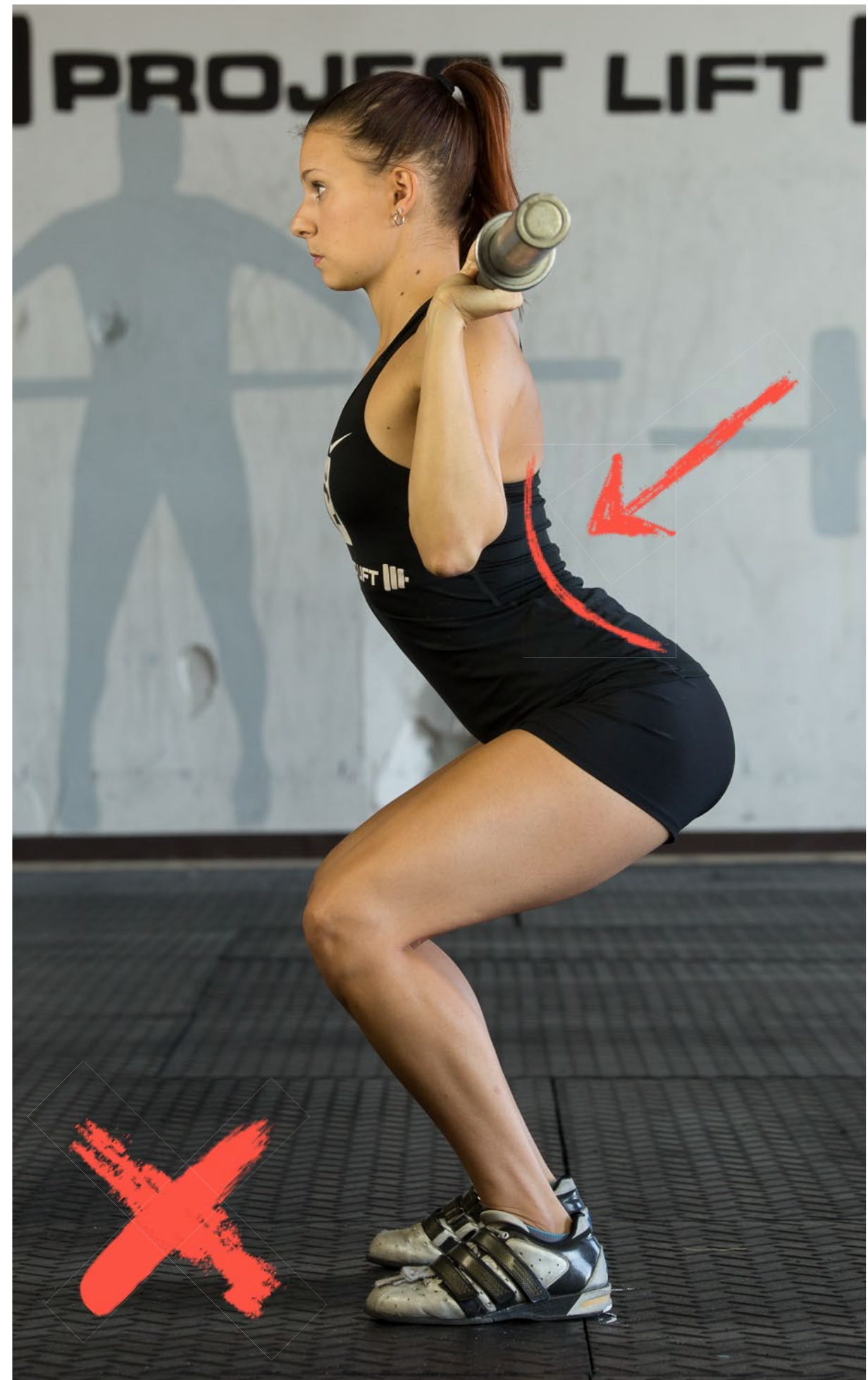


U1E #6

TRAIN PROPER STABILITY

TRAIN PROPER STABILITY

Hyperactivity and overtraining of the posterior chain is common in strength training: neurology, curing, excessive barbell work, and traditional movements such as the squat often train the ECSS instead of training proper stability. Coaches need to program and cue their athletes to stabilizing with a proper strategy.



STABILITY

The diaphragm is the linch pin of stability.

The diaphragm concentrically contracts, which pushes the fluid within the abdomen outward against the abdominal wall, the pelvic floor and the spinal extensors, eccentrically activating them.

This creates a strong co-contraction of these muscles and produces an additional stabilizing force, Intra-Abdominal Pressure (IAP).

Proper stabilization minimizes compressive forces on the spine and maintains it in a neutral position for safer loading.

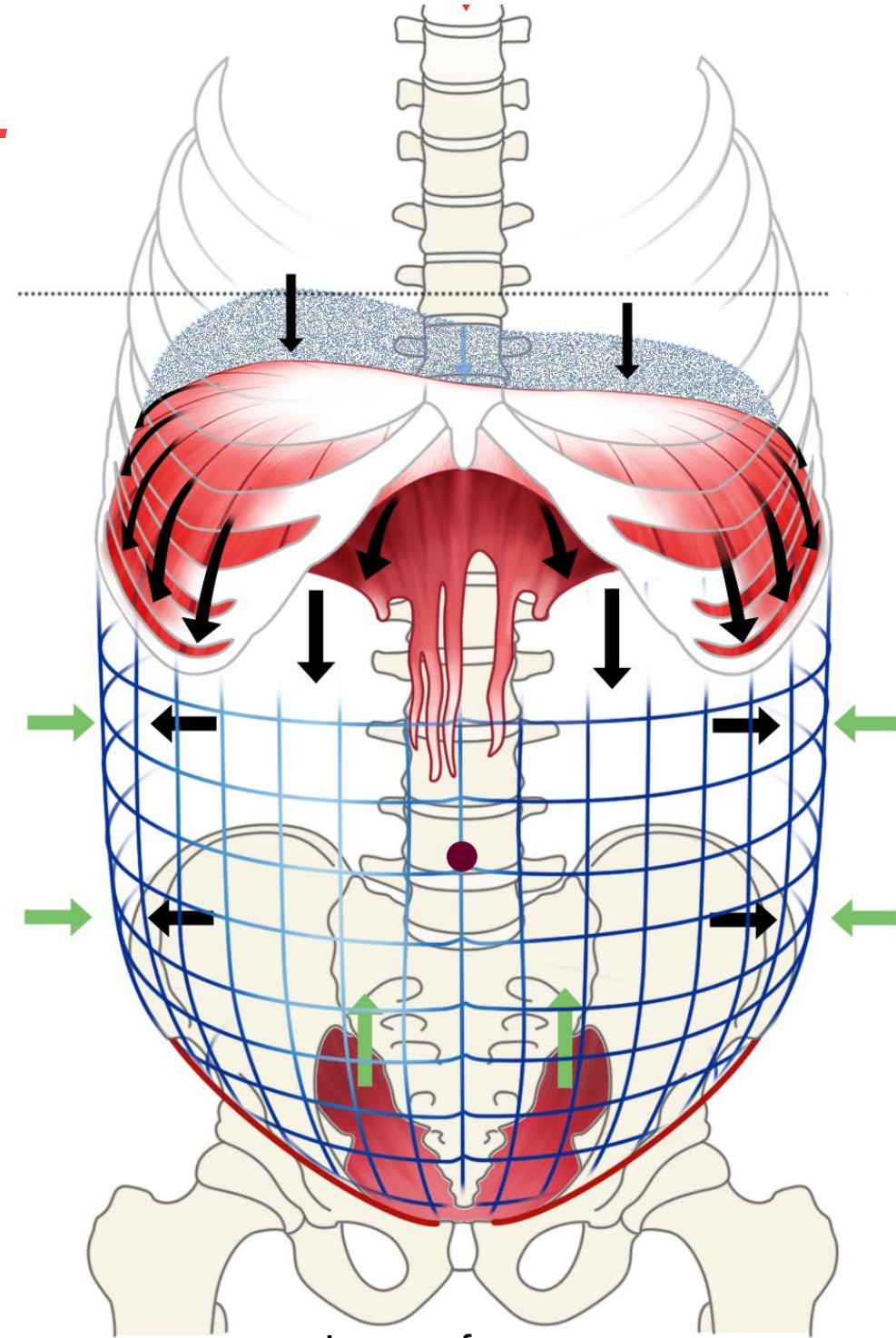


Image from:
Prague School of Rehabilitation

www.rehabps.com

STABILITY

Mechanisms of Proper Trunk Stability:

- 1. Passive structures (joint shape, ligaments, fascia, bones, etc).*
- 2. Conscious muscular contraction (controlling and preventing unwanted movement).*
- 3. Sub-conscious, anticipatory muscular activation*
- 4. Continuous sensory-motor regulation of muscular contraction strength and timing*
- 5. Fluid/gaseous pressure within the abdomen.*

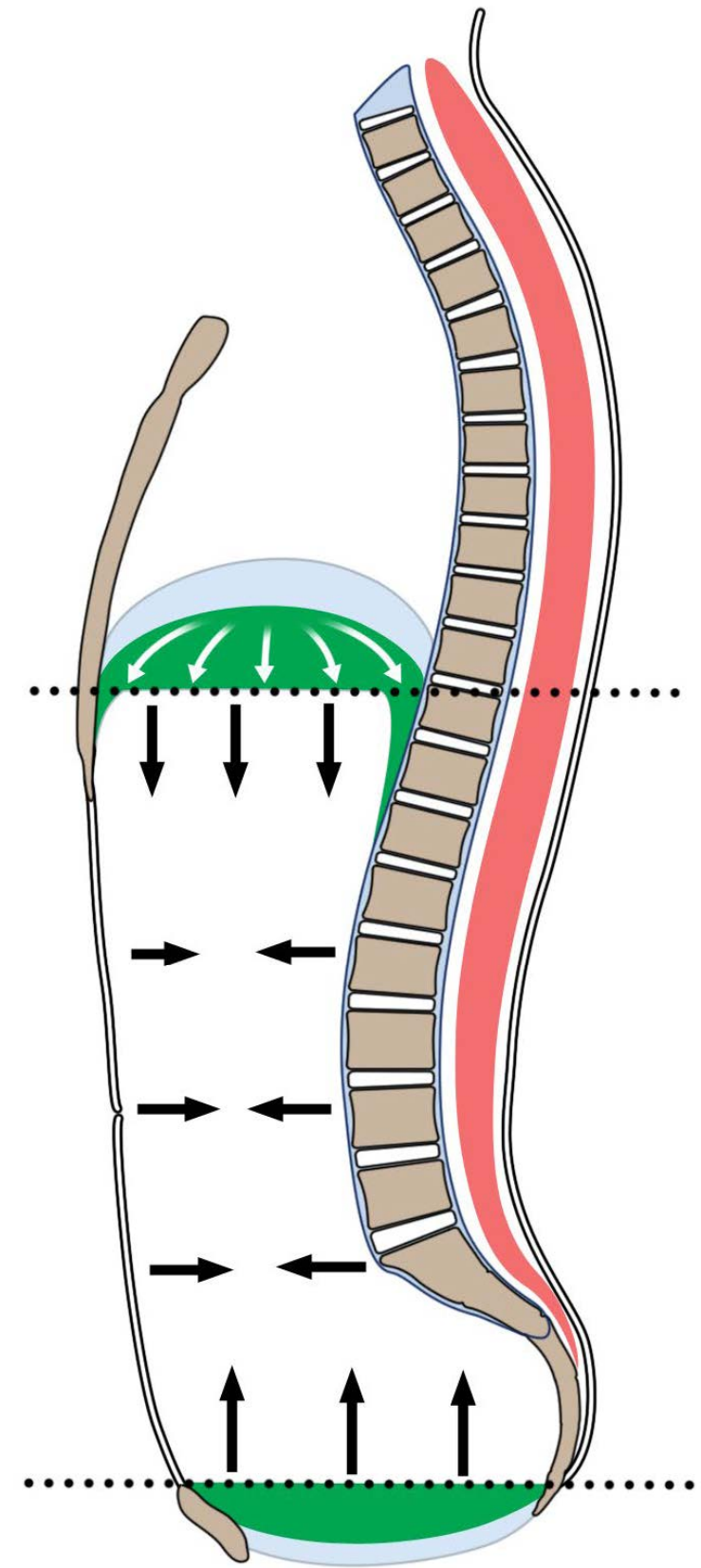


Image from:
Prague School of Rehabilitation

POSTURAL CONTROL & STABILITY

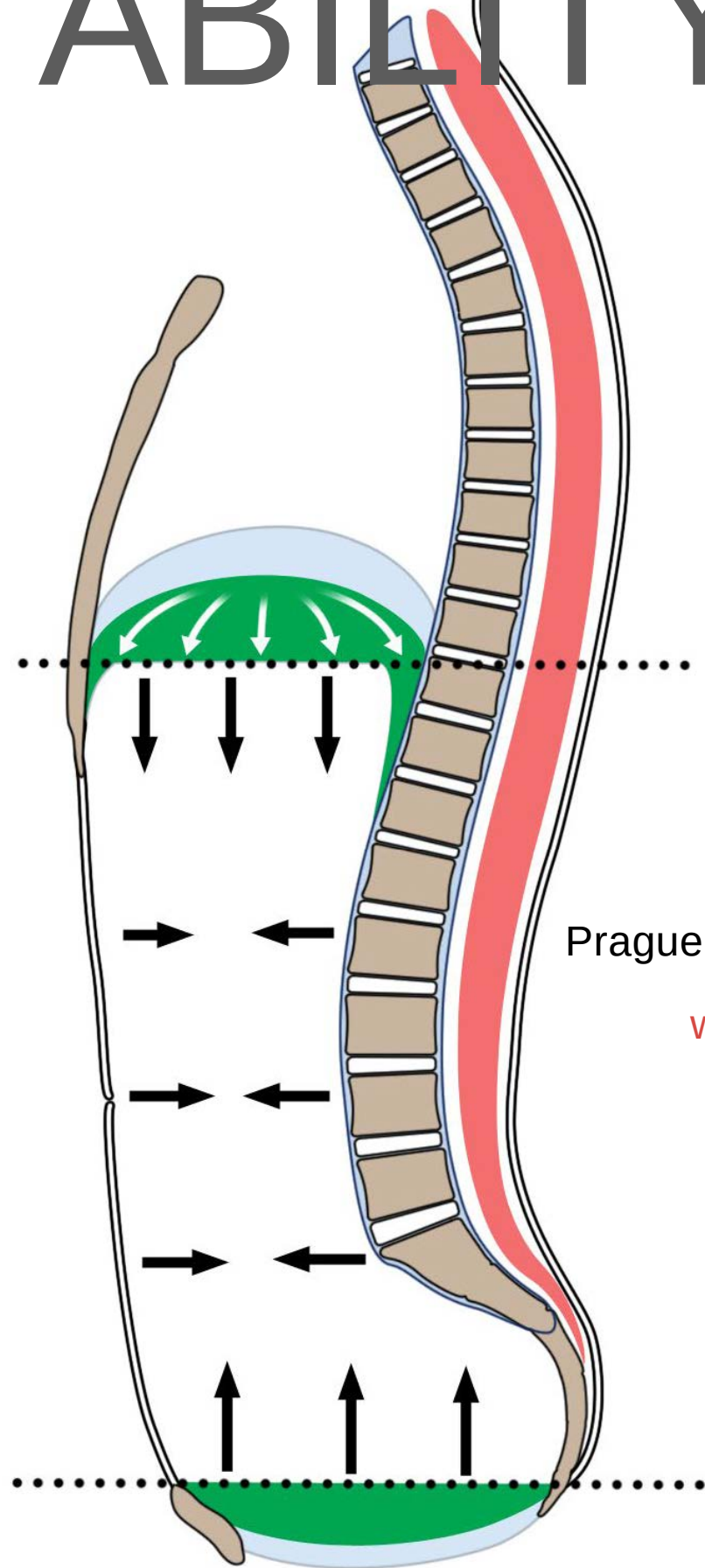
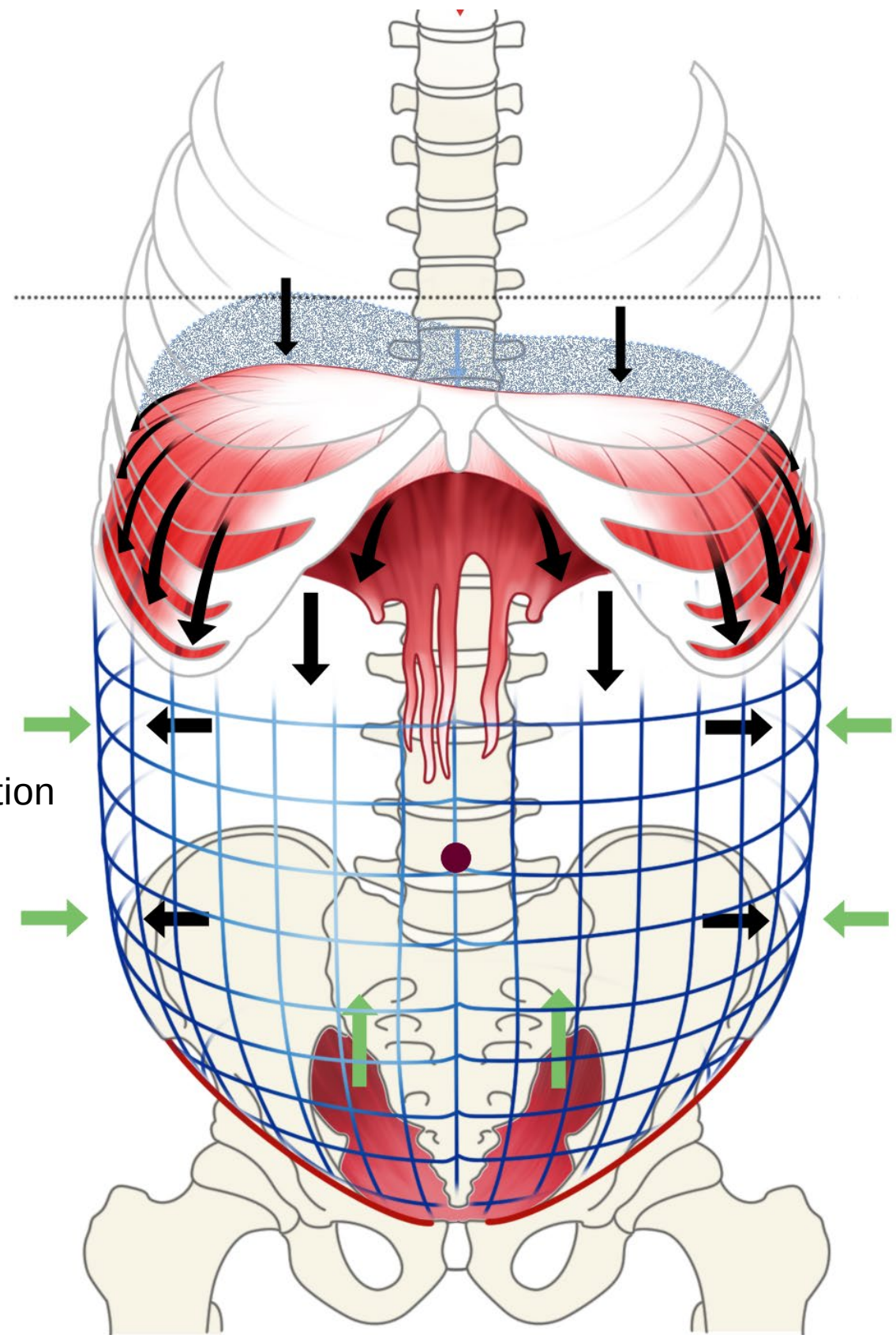


Image from:
Prague School of Rehabilitation
www.rehabps.com



POSTURAL CONTROL STABILITY



3 Month Holds

PLANK STABILITY



3 Month Holds with Single Leg Heel Touches

TRUNK STABILITY



3 Month Holds with Bilateral Heel Touches

TRUNK STABILITY



Bear Position Holds

POSTURAL KINETIC STABILITY



3 Month Holds with Kettle Bell Pull-Over

TRUNK STABILITY



Side Bridge Hold with Hip Flexion

TRUNK STABILITY



Suitcase Carry

STABILITY



Single Arm Overhead Carry

STABILITY



Waiter Carry

POSTURAL STABILITY



Unilateral Carries



MODULE #7

SHUT OFF THE ECSS* AFTER TRAINING

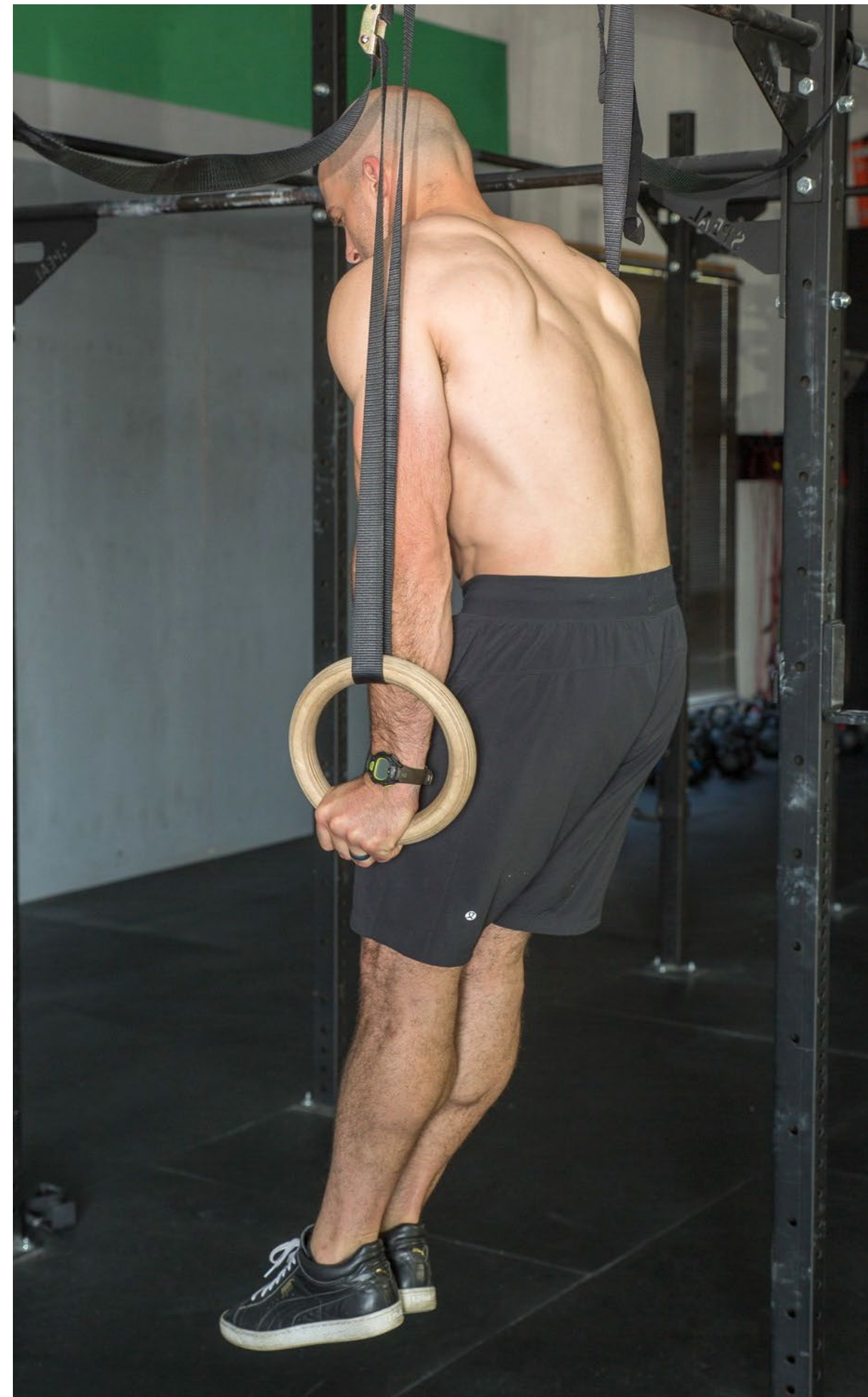
*ECSS = EXTENSION/COMPRESSION STABILIZING STRATEGY

OFF THE ECSS AFTER TRAINING

Training, particularly weight training, often hyper-activates the posterior chain resulting in a pathological stabilizing strategy known as the Extension/Compression Stabilizing Strategy (#ECSS)

The harder an athlete pushes, the more strongly the ECSS is expressed.

Focused effort must be applied to reduce the ECSS in athletes following intense weight training.

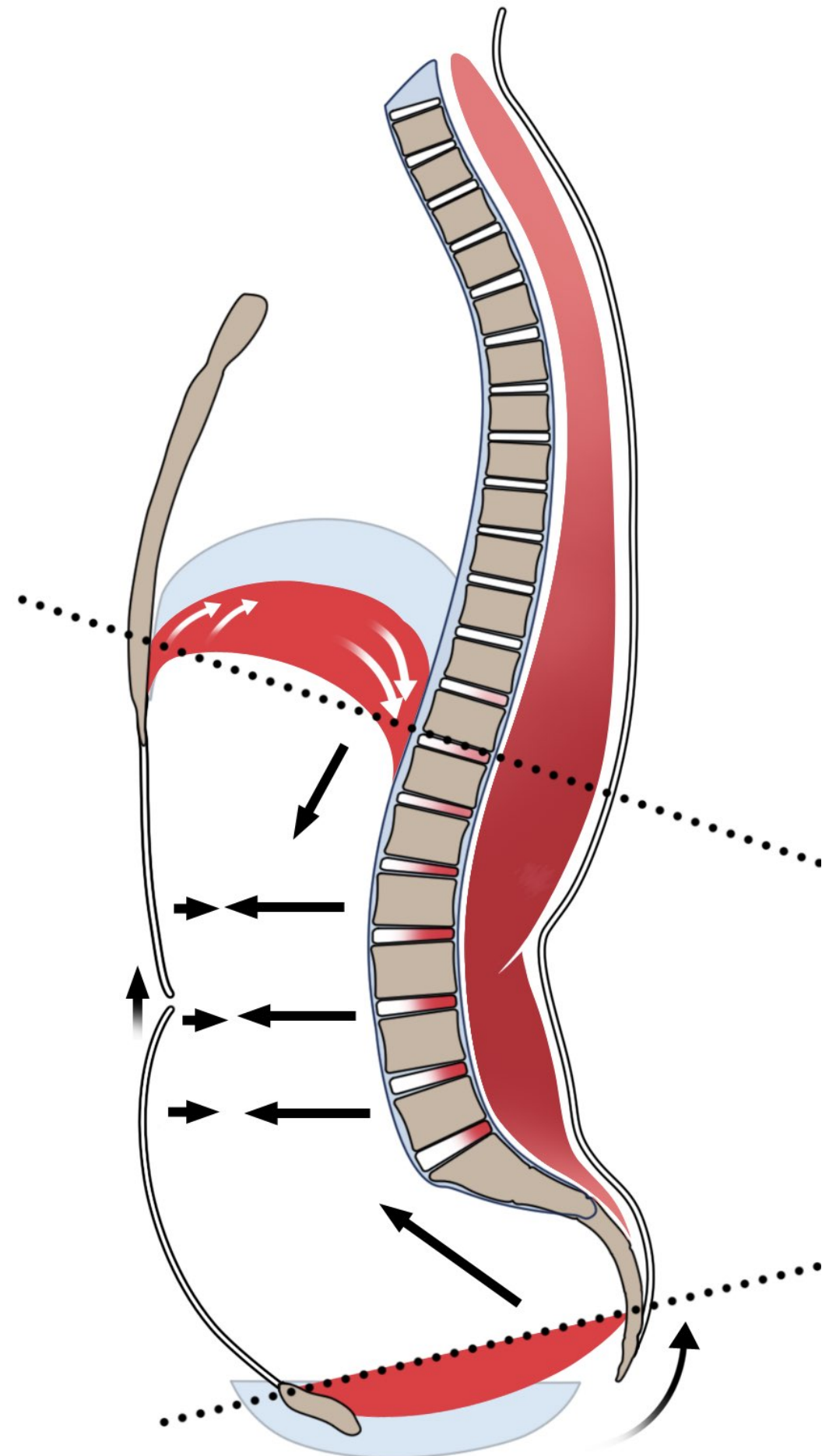


DEFINITION:

THE
EXTENSION/COMPRESSION
ON STABILIZING
STRATEGY (ECSS) IS A
COMPENSATORY
STABILIZING STRATEGY
WHERE THE ATHLETE
USES EXCESSIVE
EXTENSION AND
COMPRESSION OF THE
SPINE FOR STABILITY.

OFF THE ECSS AFTER TRAINING

The ECSS is when the spinal extensors (aka the posterior chain) become hyperactive in the absence of proper stabilization. This strategy places chronic load on the spine and discs, increasing one's propensity for lower back pain and injury.*



*ECSS = EXTENSION/COMPRESSION STABILIZING STRATEGY

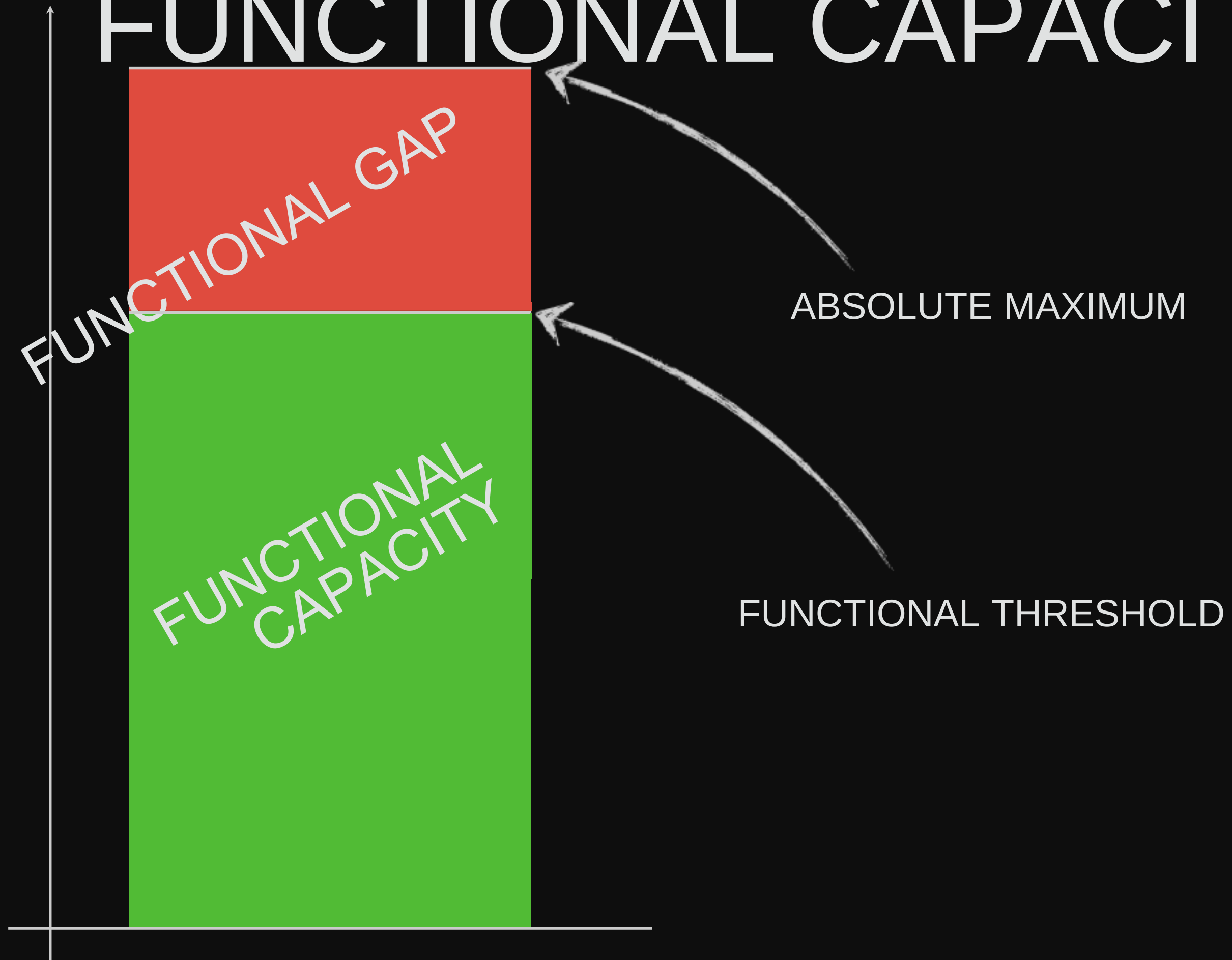
SPORTS IS ALL
ABOUT PUSHING
ONESELF TO THE
LIMIT. TRAINING
AT HIGH
THRESHOLDS
WILL ACTIVATE
THE ECSS.

FUNCTIONAL CAPACITY

THE RANGE WITHIN
WHICH AN ATHLETE IS
CAPABLE OF
MAINTAINING PROPER
MOVEMENT
STRATEGIES



FUNCTIONAL CAPACITY



FUNCTIONAL CAPACITY

THERE ARE 3
STRESSORS THAT
CAN PUSH AN
ATHLETE OVER
THEIR FUNCTIONAL
THRESHOLD.

- 1.FORCE
- 2.DURATION
- 3.SPEED



FUNCTIONAL CAPACITY
ATHLETES ARE
NOT ALL
CREATED
EQUAL.



FUNCTIONAL CAPACITY
NOT ALL
ATHLETES ARE
CREATED
EQUAL.



THE MORE OFTEN AN ATHLETE TRAINS
ABOVE THEIR FUNCTIONAL THRESHOLD,
THE MORE LIKELY THEY ARE TO GET
OVER-TRAINED OR INJURED.

WORLD OF FITNESS ECSS



Back Breathing in Hanging Squat

FUNCTION OF THE ECSS



Back Breathing in 1st Position

/// HYPERTHROWING THE ECSS



Back Breathing in Bear Position

ATHLETE ENEMY

ECSS



S.L Lifts in Hollow Position in Parallettes

FUNCTIONAL FITNESS ECSS



Partial Hollow Hold

TRAINING MODIFICATIONS FOR REDUCTION IN LOW BACK INJURY

1. LESS BACK SQUATS; MORE FRONT SQUATS
2. LESS SQUATS; MORE LUNGES
3. IMPROVE HIP MOBILITY
4. GET OUT OF THE SAGITTAL PLANE
5. PUT THE BARBELL DOWN
6. TRAIN PROPER STABILITY
7. SHUT OFF THE ECSS AFTER TRAINING

THANKS FOR
YOUR TIME!

ATHLETE



ENHANCEMENT

www.Athlete-Enhancement.com

[@AthleteEnhancement](https://www.instagram.com/AthleteEnhancement)



REFERENCES:

1. "The Vertebral Column Taken as a Whole." *The Physiology of the Joints. Volume 3: the Trunk and Vertebrae Column*, by I. A. Kapandji, Churchill Livingstone, 1980, pp. 20-42.
2. Kuai, Shengzheng, et al. "The Effect of Lumbar Disc Herniation on Spine Loading Characteristics during Trunk Flexion and Two Types of Picking Up Activities." *Journal of Healthcare Engineering*, vol. 2017, 2017, pp. 1-10.
3. Levangie, Pamela K., et al. *Joint Structure and Function: a Comprehensive Analysis*. 5th ed., F. A. Davis Company, 2019.
4. Schuenke, M, Schulte, E, Schumacher, U, Ross, LM, Lamperti, ED, and Voll, M. *Atlas of Anatomy: General Anatomy and Musculoskeletal System*. Stuttgart, NY: Thieme; 2010.
5. Shan, Zhi, et al. "A More Realistic Disc Herniation Model Incorporating Compression, Flexion and Facet-Constrained Shear: a Mechanical and Microstructural Analysis. Part II: High Rate or 'Surprise' Loading." *European Spine Journal*, vol. 26, no. 10, 2017, pp. 2629–2641.
6. Shimozaki, Kengo, et al. "Incidence Rates and Characteristics of Abnormal Lumbar Findings and Low Back Pain in Child and Adolescent Weightlifter: A Prospective Three-Year Cohort Study." *Plos One*, vol. 13, no. 10, 2018, pp. 1-10.
7. Wade, Kelly R., et al. "A More Realistic Disc Herniation Model Incorporating Compression, Flexion and Facet-Constrained Shear: a Mechanical and Microstructural Analysis. Part I: Low Rate Loading." *European Spine Journal*, vol. 26, no. 10, 2017, pp. 2616–2628.