LEARNING OBJECTIVES

+ Understand how the concept of the “Core” has evolved
+ Identify the components of the pillar and their function
+ Explain the concept of kinetic linking and explain its application
+ Explain where Pillar Prep fits into program design
+ Understand how to prepare the pillar for optimal performance
PILLAR STRENGTH

1. Re-define “The Core”

What is Pillar Strength?
Pillar Strength is simply the blend of mobility and stability through the hips torso and shoulders.
PILLAR PARADIGM SHIFT

Crunches and planks do not define the core

- The trunk is less likely to be a structure that generates force and more likely a structure that tolerates/conducts force.

- It allows for MOVEMENT AND FORCE TRANSFER
ANOTHER PRIMARY FUNCTION OF THE PILLAR

BREATHING ALWAYS WINS
CHECK FOR LEARNING

✦ List the 2 main functions of the pillar.
✦ Is the Pillar Static or Dynamic?
✦ What positions should we train the pillar?

THE PILLAR

✦ Anatomy of the Pillar
✦ Efficiency of Movement
PILLAR HARDWARE AND SOFTWARE

PILLAR ANATOMY: HARDWARE

SHOULDER/SCAP
THORACIC SPINE
LUMBAR SPINE
PELVIS
HIPS

MUSCLES THAT CONNECT THEM ALL
JOINT BY JOINT APPROACH

SHOULDER/SCAP  STABILITY
THORACIC SPINE  MOBILITY
LUMBAR SPINE  STABILITY
HIP  MOBILITY
KNEE  STABILITY
ANKLE  MOBILITY
FOOT  STABILITY

PILLAR ANATOMY

Akuthota et al
Bojadsen et al
PILLAR ANATOMY

McGill, 2007
The role of the nervous system is coordinate movement through muscle recruitment and managing that movement based on sensory feedback.

The system has innate patterns that it calls upon to begin and develop movement patterns. Immediately at birth we have neurological patterns that facilitate survival. The first being breathing, second being rooting reflex to fill need for food. This is the basis of our movement-soldiership.

Habitual movement helps develop patterns that are unique to each person's movement signature.
Our goal is to prime the nervous system so it can perform optimally and utilize the full mobility and potential of the body.
PROXIMAL STABILITY

To move efficiently, an individual must have proximal stability of the pelvis.

IMPORTANCE OF KINETIC LINKING

Force Creation (Hips) → Force Transfer (Trunk-Extremities) = Optimal Performance & Injury Prevention
IMPORTANCE OF KINETIC LINKING
CHECK FOR LEARNING

- What 5 structures make up the Pillar?
- What Structures need Mobility?
- What structures need Stability?
03

IMPLEMENTATION

- Know where Pillar Prep fits
- View the Pillar Preparation sequence
- Understand how to prepare the pillar

Base off individual needs
Based off of the FMS Results

Is your Program Balanced?
PROGRAM DESIGN

MOVEMENT SESSION
- PILLAR PREP
- MOVEMENT PREP
- PLYOMETRICS
- MOVEMENT SKILLS
- REGENERATION

STRENGTH SESSION
- PILLAR PREP
- MOVEMENT PREP
- STRENGTH POWER
- ESD
- REGENERATION

PILLAR PREPARATION COMPONENTS

SOFT TISSUE
- Tension and adhesion

MOBILITY
- Restore symmetry
- Increase range of motion

STABILITY
- Motor Control
- Proper sequencing patterns
### PROGRAM VOLUME

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOFT TISSUE</strong></td>
<td>2-4 Muscles&lt;br&gt;30-60s each&lt;br&gt;*Barrel Roll&lt;br&gt;*Acu-Point</td>
</tr>
<tr>
<td><strong>MOBILITY</strong></td>
<td>2-4 Movements&lt;br&gt;5-10 reps 2s Holds&lt;br&gt;*AIS&lt;br&gt;*PNF</td>
</tr>
<tr>
<td><strong>ACTIVATION</strong></td>
<td>2-4 Corrective Movements&lt;br&gt;10 reps each&lt;br&gt;1º/2º FMS Solutions</td>
</tr>
</tbody>
</table>

### PROGRAM DESIGN

**Soft Tissue Methods**

- **Ball**
  - Hold pressure over the trigger point until it releases. It must release or the tightness could get worse, versus improving.

- **Barrel Roll**
  - 8-10 rolls over a muscle
  - Hold pressure over the trigger point until it releases. It must release or the tightness could get worse, versus improving.
  - Then repeat by rolling the length of the muscle again.

MacDonald et al, De las Penas et al
**AIS & PNF Stretching**

- Use the antagonist muscle actively to help stretch the agonist.
- Assists the antagonist using a rope, band, or hands
- Hold 2 seconds at end of range
- Repeat 6-8 reps on each target tissue

**Program Design**

**Stability - Activation**

- Focus on stability muscles around the lumbar spine, pelvis, and shoulder
- Enhance primitive patterns
- Maximize recruitment and control
PILLAR POSTURE

“True spine stability is achieved with a balanced stiffening from the entire musculature...focusing on a single muscle generally does not enhance stability but creates patterns that result in less stability.”

CASE EXAMPLE

+FMS PRIMARY LIMITATIONS
- 1 active straight leg raise

+SESSION FOCUS
- Acceleration

+AREAS OF FOCUS DURING PILLAR STRENGTH
- Anterior hip mobility
- Posterior hip mobility
- Trunk stability
**Active Straight Leg Raise Corrective Exercises**

Procedure: If Score is 1, only perform steps 1 & 2. If Score is 2 or 3, perform whole sheet.

1. **Soft Tissue**
   - Place ball inside of front hip bone. Apply pressure until a sharp sensation is felt. Hold pressure until pain goes away.
   - Cross opposite foot to add pressure into the thigh. Foam roll from back of knee to butt. Find the areas that feel painful or knotted and hold pressure. Hold pressure until pain/knot goes away.

2. **Mobility**
   - **Active Hamstring Stretch**
     - Keep down leg completely straight and toes pointing up. Keep hip of leg being stretched above 90 degrees at all times. Hold stretch for 2 seconds, relax, and repeat 10 times.
   - **Supported (Progressing to unsupported) Single Leg Lowering**
     - Start with both legs straight up. Keep low back flat on the floor. Top leg is propped against object (doorway, squat rack, etc.). Keep knee straight and toes up on both legs. 2 sets of 8 reps each side.
**PROGRAM DESIGN**

- **Stability/Activation**
  - KB Bottoms-Up: Hold with ASLR
  - Toe Touch Progression

**CHECK FOR LEARNING**

- List the 3 components of Pillar Prep.
- Write down when Pillar Prep should be sequenced in the training session.
- Design an example of Pillar Prep for this athlete:

The athlete has good depth in the deep squat, but is unable to keep the stick overhead (FMS 2). The training session for the day is linear.
The pillar is involved in every element of training and sport.
- Pillar Strength is the blend of mobility and stability through the hips, torso, and shoulders.

Breathing is another primary function of the pillar.
- Understand how training the pillar affects posture and performance.
The ‘hardware’ of the pillar forms the structural integrity that allows optimal performance in sport and life.
- Hips and Pelvis
- Lumbar Spine and Thoracic Spine
- Shoulders

The ‘software’ of the pillar includes the central nervous system that coordinates movement through muscle recruitment and managing that movement based on sensory feedback.

It is important to understand when to approach training the pillar.
- Train the pillar at the beginning of the session to lay a foundation of advanced movements

Consider your athletes’ needs, abilities, and limitations when addressing the pillar.
- Prioritize soft tissue, mobility, and then activation in training your athletes.
APPENDIX


EXOS EVERY DAY IS GAME DAY.