Functional Strength For Track and Field Athletes

Lee Taft

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My Journey In Track and Field

- High School Hurdler, Jumper, Relay
- In New York, Whitehall HS- 1989 first year as a high school track coach. Coach anything and everything (Only two coaches combined for boys and girls- LEARNED A TON!
- In Indiana, Roncalli HS- 1995- Had about 5 coaches. Learned to coach coaches. Took 4 runner to the state championships in the 4x400. Seeded 25\textsuperscript{th} took 13\textsuperscript{th}.
- In New York, Corinth HS- 1996-1998(assistant) 1999-2001 as head coach. Keep learning to this point. Strength training became top priority- My first year as head coach we took 11 athletes to the states and 13 athletes my second year. Had 7 state champions!
My Journey as a Strength Coach

• Started in 1989 during the summers and after school.
• Developed a passion for the process of developing athleticism.
• Learned how the human body functions in its natural state.
• Discovered how to use training methods to aid in the development process.
• Strength Training solved many issues sport specific training could not!
  – Greater force production and reduction
  – Greater Stability
  – Ability to move mass with more speed…
Why Strength Training Matters

• Improved overall strength
• Improved power
• Greater Stability
• Greater summation of parts to produce triple extension
• Ability to absorb forces greater
• Confidence
• Injury reduction
• Return to play faster
• And on and on…
Today’s Talk is About Setting a Foundation of Strength:

- **Medicine Balls**
  - Great for teaching core stiffness
  - Easy way to implement explosive movements

- **Tubing/Bands**
  - Also great for teaching core stiffness with extremity control
  - Extremely versatile and easy to implement

- **Body Weight**
  - Can be done anywhere at anytime
  - Great way to learn correct posture and control of posture through range of motion.
Concepts In Training

- If we can understand how we produce force during track and field events we can better understand how to train for them:
  - Triple Extension- “Line of Power”
  - Stable Core- “Train for Stiffness”
  - Load to Explode- “Control force absorption so we can have force production”
When and Why to Use Medicine Balls, Tubing, Body Weight

- **Off Season** - Before weight training begins
- **During Season** - when time is an issue and doing training on the track is best option
- **Change of pace** - To give athletes the opportunity to do something different
- **Returning from Injury** -
- **Circuit Training** - very easy to implement
- **Home Training** - No excuses not to train at home or on vacation
Medicine Ball Training
Core Stability and Force Absorption “FAKE THROWS”

• Create a Solid Foundation for athlete to move from- Core Control!
• Teach the body how to stabilize joints quickly upon foot contact
• Learn how to create force absorption postures.
Fake Throw System

- Level 1 Horizontal- At Chest
- Level 2 Horizontal- Chest level half arm
- Level 3 Horizontal- Chest level full arm
- Level 1 Vertical- At Chest
- Level 2 Vertical- Above head half arm
- Level 3 Vertical- Above head full arm
Fake Throws
Force Absorption
Another Fake Throw Into a Stabilized Posture
Linear Force Absorption
Fake Throws
Example of Fake Throw to avoid Hyperextension
Lateral Fake Throw for Throwers
Programming Fake Throws

- Perform 1-3 sets
- Perform 4-6 reps
- Rest 60-90 seconds
- 2-3 days per week
- Can be done post warm up
- Great done prior to explosive training

“If you can’t stabilize the system, the system won’t give you much”
Explosive Medicine Ball Training
Explosive with Core Stability
Specific Patterns and Power
Programming for Explosive Medicine Ball Training

• Perform 5-8 reps- explosively
• Perform 2-5 sets- must still be explosive
• Rest- 30-2min- based on reps/sets
• Intensity- light ball relative to max strength
• Done early in workout
• 1-3 days per week with 48 hrs recovery
Strength Training with Medicine Balls
Strength Training with Medicine Balls

• Due to the light relative weight of a medicine ball, strength training goal must be monitored for specific results:
  – Power Endurance- 10 reps, 10%-30% load, 30sec and more rest
  – General Fitness- 10-30 reps, 10%-60% load, 0-30sec rest
  – Strength Endurance- 12 or less reps, 0% up to body wt, Slow Tempo
None Threatening To Kids and Safe!
Band and Tubing Training

• Very easy to bring to track or fields.
• Can bring to track meets for warm ups
• Creates an eccentric control focus
• Forces the core to become very active to stabilize the pelvis and spine.
Creating a Stable Foundation Through the Core To Move Leg
Creating Stiffness in the Core Anti-Rotation
Contralateral Core Loading
Posterior Chain Activation with Back Leg
Single Arm Patterns for Consistent Contralateral Loading
More Specific Loading for Force Absorption and Production
Explosive Training with Bands

• Bands for the athletes to get into correct postures to be able to produce explosive forces.
  – If not in good posture the bands will be difficult to control.
  – Great for runners, jumpers, throwers…
Band Lateral Power Development With Core Stability in Frontal Plane for Throwers
Forcing Greater Ground Forces Through Hips and Legs
Acceleration Force Production Using Bands
Kids Learning To Resist Forces and Create Acceleration Angles
Body Weight Strength

• Build an awareness of body control
• Teaches athletes what good posture is through movement
• Safe, if done correctly, and easy to implement.
• Can build incredible strength, power, and endurance
Exercise Selection/Programming

• Patterns:
  – Squat
  – Bend
  – Vertical Push or Pull
  – Horizontal Push or Pull
  – Core
Programming

• Create an A and B Day
• Choose the patterns you want for A and then for B day
• Teach athletes what a Tempo is when performing an exercise.
  – Time Under Tension determines outcome of type of strength gained
    • Power- move quickly for shorter duration
    • Strength- Move Slowly to make body weight challenging
    • Endurance- Perform higher reps at moderate pace.
Example Strength:

A-Day
1. Explosive
2. Squatting
3. Vertical pull
4. Horizontal push
5. Core

B-Day
1. Explosive
2. Bending
3. Horizontal pull
4. Vertical push
5. Core
# Example Strength

<table>
<thead>
<tr>
<th>A-Day</th>
<th>B-Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vertical Jump 3x5</td>
<td>1. M-Ball Throws- 3x5</td>
</tr>
<tr>
<td>2. Split squat- 3x8 ea</td>
<td>2. One leg RDL- 3x8ea</td>
</tr>
<tr>
<td>3. Pull ups- 3x5-8+</td>
<td>3. 1 arm Tube row- 3x8ea</td>
</tr>
<tr>
<td>4. Push ups- 3x8+</td>
<td>4. 1 arm Tube press- 3x6ea</td>
</tr>
<tr>
<td>5. Tubing pressout- 3x10ea</td>
<td>5. Side plank- 3x10ea</td>
</tr>
</tbody>
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How To Prescribe Tempo

• Use a number system that tells athlete how fast to move for eccentric, concentric, and at end ranges.
  – Example; Perform a 211 tempo for push ups
    • 2 = two seconds on the lowering
    • 1 = one second pause at the bottom
    • 1 = one second to rise to the top position
      – If there is an “X” that mean explode.
How To Prescribe Rest

0-30 seconds........roughly 50% energy system recovery
30s-2min............roughly 90% energy system recovery
2-3min..............roughly complete energy system recovery
3-5min...............roughly complete neural recovery

**Full Neural recover is based on intensity of exercises.**
Thank You!

Please Visit me at LeeTaft.com or contact me at Lee@LeeTaft.com or Follow me on Twitter @leetaft

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