Coaching Linear And Multi-Directional Speed

•Techniques
•Coaching Large Groups
•And More…

Thank You

- Coach Stiggins and the CSCCa
- Chris Poirier and Perform Better
- You for attending and making the profession what it is today

How It Started:

- When in college I started to question how speed was being taught.
- I felt I was being coached out of it!
- I knew I was moving correctly and wanted to know why I was being coached differently.

I was Preparing Myself for Battle. **I had to stick up for what I knew was right… even though it was against the grain.**

A Few Important Concepts I Found…

- 1**.** The feet re-position from under the hips most of the time to accelerate or decelerate quickly.
- 2. The ***shoulders*** are super important in multi-directional acceleration and deceleration. They help determine force production and how the body receives and controls power.
  - We must control Mass and Momentum
- 3. Planting and push off angles must be appropriate to meet horizontal forces to be quick and safe.
- 4. We must integrate Random Reaction into the training program to get a true assessment of how an athlete moves.

Why Understanding Is Important

- If we understand why the body works better in various biomechanical positions we can assess and coach Movement better.
  - Why driving the arms during acceleration is important
  - Why moving the feet into better positions, reactively, helps acceleration and deceleration
  - Why disassociation of the upper and lower body is important.

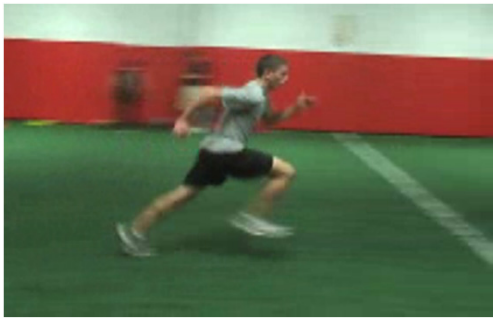
Coaching Multi-Directional Speed

- The Laws and Concepts I Follow:
  - Understand Action Reaction
  - Control mass and momentum
  - Create great angles of force application
  - Control hip height
  - Allow for repositioning of the feet
  - The Pelvis is the center piece the legs move around
  - Long force application early (Not short and quick)
  - Quick reactive hands drive the engine

Linear Acceleration

- Train Various Stances
  - Both Static and Active Stance
    - Take note of how the athletes adjust the body when “Reacting” and “Starting”.
    - Look for long force production through a strong arm and leg drive
    - The lean comes from the ankles not the hips.
    - “Punch” and “Drive”
    - Plyo Step….When needed

How Can You Tell This Is Acceleration and Not Top Speed?



Acceleration Posture- Drive Phase


Pure Linear Acceleration. What Do You Notice?

In This Acceleration Drill What Mistakes Are Being Made?

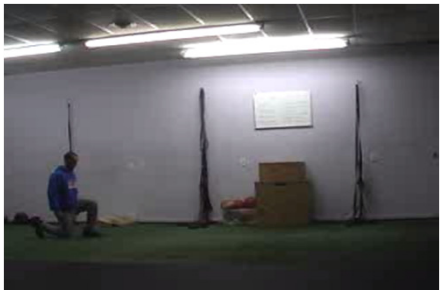
Repositioning (Plyo Step) During Reactive Acceleration… Not A Step Back!

Slow Motion Look

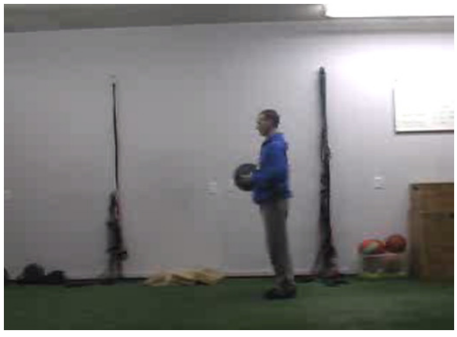
Trying not to take step back

Trying not to take a step back

Various Acceleration and Deceleration Positions



Action-Reaction Drill To Improve Hip Flexion and Hip Extension



Posterior Chain Loading

Acceleration from a Lateral Stance…Think Base Stealing!

Slow Motion Take Off

Pure Lateral Acceleration

- Understand The **Lateral Gait Cycle**:
  - Each leg has a role in the lateral shuffle:
    - Rear leg is the primary force producer- "Push"
    - Lead leg keeps the acceleration going- "Pull"
    - Rear foot/ankle dorsi-flexes and springs- "Load"
    - Lead foot/heel cycles back and pulls- "Pulls"

*Both legs recover together under the hips and continue the Lateral Gait Cycle.

The Heel is preparing to pull

The "Lateral Gait Cycle"

The Foot Pattern Is Natural

Cuing Lateral Shuffle

- “Stay in the Tunnel”
- Push away
- Stay Tight (meaning tight core and stable body- not “floppy”)
- If you are after speed the pushing should be LONG AND POWERFUL, not short and quick.

Using The M-Ball To Train Force Application Angles For Lateral Acceleration

King of Athletic Movement

- The Crossover Move
  - Going for length and long force production
  - Drive down and back
  - Open hips to the direction
  - Orient the upper body to the target (person, ball…)

Retreating Acceleration

- Hip Turn:
  - Reposition for a better force application angle.
  - Take advantage of the Stretch Shortening Cycle
  - Create an important disassociation of upper and lower body.
    - Progression:
      - Quick Hips
      - Hip Turn and Shuffle
      - Hip Turn and Crossover
      - Hip Turn and run

Hip Turn- "Plyo Step behind the Frontal Plane"

We also don't want to teach pivoting unless it is a rule of the game!

- The Hip Turn!

  The concept I follow is Re-Positioning to create a:

  1. Plyometric action
  2. Create a great acceleration angle with the push off leg
  3. To Immediately get into acceleration posture.

Deceleration

- Deceleration is Usually the FIRST step in acceleration:
  - If we think of it this way we can assess easier and understand what body positions athletes should be in when changing direction.
  - Helps to coach the "Intensity of Speed."
  - **Allow and teach repositioning of the feet in order to create better force application/absorption angles.**

Decelerate With A Purpose!

What needs to be corrected on this lateral shuffle change of direction.

Great Posterior Chain Deceleration Drill To Aid In Change Of Direction Integrity.

Train Deceleration With Using The Medicine Ball For Feedback

Intensity of Speed!

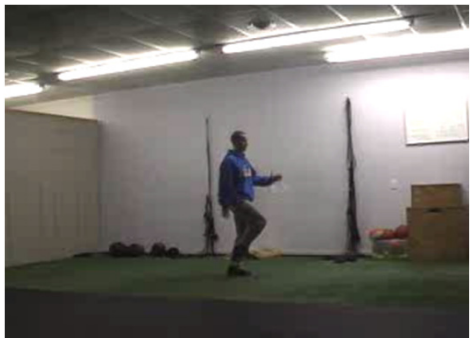
- The intensity of effort on a specific drill can totally change the mechanics of how well or poorly the drill was executed.
- When you focus on re-acceleration and not deceleration the skill gets better.
- When you make the athlete understand the ultimate goal of finishing the drill- the skill gets better.
- Of course they must understand the skill first!

Sprinting Posture!

Sprinting

- Tall Posture- Hips Under
- Legs Step over and Drive Down
- Arms swing from shoulder joint
  - Front side is roughly 60-65 Degrees at elbow
  - Back side is roughly 100 Degrees at elbow
  - 90 degrees in the middle
- There will be an up and down movement of the center of mass after each stride.

Sprinting Posture Drills



Drills For Max Velocity

- A-Skips
- Step Over Runs
- High knees w/ focus on pushing into track
- Butt Kicks w/ knees forward and heels toward upper hamstring.

Training Sprinting

- Fly's- 20's-30's…
- Be careful but you can use assisted exercises as long as posture and technique isn't disrupted.
  - Towing w/ light tubing
  - Slight grade downhill
  - Run with Wind?

Implementing Proper Training With Large Groups

Large Group

- Plan, Plan, Plan!!!
- Understand Traffic Flow
- What drills are the most efficient for large groups but still accomplish your skill training.
- Know how to get groups into formations.
- Never have athletes wait too long in line before their turn. They will lose focus.

Large Group Planning

- Plan a Training Session Based On:
  - Number of Athletes
  - Size of Facilities
  - Skills to be Covered
  - Rest Periods
  - Coaching and Feedback Needed
  - Safety

If You Have Questions

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