300m/400m Hurdle Technique and Training

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Introduction

- The 300m/400m hurdle events demand the ability to run a fast 400m as well as the ability to hurdle with both legs.
- It is often debated when an intermediate hurdler should train as a 400m sprinter or an 800m runner.

Event Performance Considerations

- General Performance Consideration
- Technical Considerations
- Race Conditions
- Race Management

Differences in Hurdle Technique

- Hurdle Technique
- Hurdling on the Curve
  - Left Lead vs. Right Lead

Hurdle Spacing

- Distance from start to the 1st Hurdle: 45 meters
- Distance between Hurdles: 35 meters
- Distance to Finish 400mH: 40 meters
- Distance to Finish 300mH: 10 meters
- # of Hurdles 400mH: 10
- # of Hurdles 300mH: 8

Technical Considerations

- Ability to accelerate into and off hurdle (minimize deceleration)
- Ability to hurdle equally well with both legs
- Ability to hurdle in two curves
- Ability to manage race distribution
Start

- Block placement is dependent on lead leg and # of strides to 1st Hurdle
- Number of strides to 1st Hurdle
  - Men 21-23 to 1st Hurdle
  - Women 22-24 to 1st Hurdle
- Even strides (22, 24) lead leg in back pedal
- Odd strides (23) lead leg in front pedal

Landing Phase

- Forward body position
- Landing on ball of foot
- Foot under Center of Mass
- Return to sprint strides
- Minimal loss of velocity

Race Management

- Steering ability plays a key role in race management and hurdle efficiency.
- Factors contributing to stride pattern
  - Lead Leg
  - Race Plan
  - Race Conditions
- Stride Pattern
- Strides between Hurdles: 13/14/15/16/17

Race Conditions

- Prepare athletes both physically and mentally
- Lane Assignments
- Wind
- Climate
- Fatigue

Hurdle Clearance

- Minimal loss of velocity
- Flight path as flat as possible
- Effective transition to the run between hurdles
- Hurdle clearance stride length

Common Hurdle Problems

- Too close to hurdle
- Ground time at takeoff too long
- Ground time at touchdown too long
Too Close to Hurdle

- Causes
  - Fear of hurdle
  - Athlete is decelerating into take off
  - Too many strides before hurdle

- Possible Corrections
  - Hurdle a lower barrier
  - Modify hurdle spacing

Ground Time at Takeoff

- Causes
  - Over striding
  - Jumping instead of running

- Possible Corrections
  - Modify hurdle spacing
  - Emphasize acceleration

Ground Time at Touchdown

- Causes
  - Lack of Strength
  - Fear

- Possible Corrections
  - Cue running in and off hurdle
  - Develop strength

Performance Qualities

- Speed
- Strength
- Flexibility
- Coordination
- Work Capacity

Speed

- Acceleration Development
- Maximum Velocity
- Speed Endurance

Strength

- Specific Strength
- General Strength
- Increase strength qualities in conjunction with speed and technique.
Strength

- Core Lifts
  - Squat, Bench, Incline
- Olympic Lifts
  - Clean, Jerk, Snatch, Complex
- Multi-Throws
  - Shot Put, Medicine Ball
- Multi-Jumps
  - Bounds, Jumps, Hops
- General Strength

Flexibility

- Static
- Dynamic
- Mobility

Coordination

- General
- Balance
- Event Specific Coordination

Work Capacity

- Extensive Tempo
- Intensive Tempo
- Circuit Training

Preparation Training

- Monday: Warm up, Multi Throws, Multi Jumps, Accelerations, Weights, Hurdle Mobility, Cool down, Stretch
- Tuesday: Warm up, Aerobic Capacity, General Strength, Cool down, Static Stretch
- Wednesday: Warm up in grass, Hurdle Mobility, Weights, Barefoot tempo run on grass, Pillar strength, Stretch
- Thursday: Hills, General Strength, Cool down, Stretch
- Friday: Warm up, in place jumps circuit, Weights, Pillar Strength, Cool down, Stretch

Specific Preparation Training

- Monday: Warm up, Multi Throws, Multi Jumps, Acceleration drills; blocks 10m-30m, Weights, Cool Down, Static Stretch
- Tuesday: Warm up, Anaerobic Capacity, General Strength, Cool Down, Static Stretch
- Wednesday: Warm up in grass, Medicine Ball Circuit, Weights, MB Pillar Circuit, Diagonal strides in grass/Stretch
- Thursday: Warm up, Technique, General Strength, Cool down, Stretch
- Friday: Warm up, Aerobic Power, Weights, Cool down, Stretch
- Saturday: Warm up, Short & Long Hills, Pillar Strength, Cool down, Stretch
Competition Training

- Monday: Warm up, Multi Throws, Blocks from 30m-60m, 60m-60m Fly's, Weights, Cool down, Stretch
- Tuesday: Warm up, Speed Endurance or Lactate Tolerance, Multi Jumps, General Strength, Cool down, Stretch
- Wednesday: Warm up in grass, Aerobic Power or Capacity, Weights, Pillar Strength, Cool down, Stretch
- Thursday: OFF/TREATMENT
- Friday: Pre Meet warm up
- Saturday: COMPETE