300/400 Hurdle Training

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Introduction

- Hurdling deviates as least as possible from normal sprinting.
- This hurdle event demands the ability to run a fast 400m as well as possess the stamina of a 600 – 800m performer.
- Our focus, first, last, and always must be establishing and maintaining SPEED between and over the hurdles!
- The hurdler must learn to hurdle with either leg.
Specifics to the 300/400 hurdles

- Strides to the first hurdle:
  - Men: 19-23 strides
  - Women: 22-25 strides

- Strides between the hurdles:
  - Men: 12 -15 strides
  - Women: 14-19
  **(developmental hurdlers may need to take more steps until they become stronger and faster)

- Takeoff distance to the hurdle:
  - Men: 2.25 -2.30m
  - Women: 2.04 – 2.05m

- Touchdown distance off the hurdle:
  - Men: 1.22 -1.32m
  - Women: 1.10 – 1.25m
  **(distances may vary based on non-fatigue and fatigue state)
# Measurements in Hurdling

<table>
<thead>
<tr>
<th>RACE</th>
<th>Distance to 1&lt;sup&gt;st&lt;/sup&gt; Hur</th>
<th>Distance Between Hurdles</th>
<th>Run-In Distance off last hur</th>
<th>Hurdle Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>400H</td>
<td>45 m</td>
<td>35 m</td>
<td>40 m</td>
<td>30/36”</td>
</tr>
<tr>
<td>300H</td>
<td>45 m</td>
<td>35 m</td>
<td>10 m</td>
<td>30/36” (8H)</td>
</tr>
<tr>
<td>200H</td>
<td>16 m</td>
<td>19 m</td>
<td>40 m</td>
<td>30/33” (5H)</td>
</tr>
</tbody>
</table>
Mechanical Demands

- Learn to hurdle with both legs.
- Attack each hurdle and negotiate it with whichever leg that comes up in the process of normal striding (no studder-step).
- Getaway stride with trail leg is longer than in the sprint hurdle race.
- Economy of motion is extremely important both between and over the hurdle.
- Run the race like a flat 400m; avoid unnecessary deceleration.
- Allow for the possibility of leading with the right leg in the turn, and run toward the center of the lane to avoid possible disqualification.
- Left leg is the preferred lead leg on the turn.
- Touchdown times: series of splits to hit based on goals and training performances.
Technical Demands

- Apply force at takeoff to move through the hurdle and minimize deceleration
- Perform effective and efficient hurdling skills with both legs
- Maintain a consistent rhythm for 10 hurdles
- Manage race distribution efficiently.
- Touchdown times: series of splits to hit based on goals and training
- Takeoff to the hurdle is further away than in the short hurdle race; allows for a full speed approach to the hurdle and efficient trajectory
- Drive phase at the start ensures proper momentum development, assisting in the achievement of good running and hurdling mechanics
Technical Demands

- Athlete must have a good sense of pace and understand the race plan and stride pattern
- Don’t let the stagger confuse you; run your race plan
- Develop an ability to ‘read’ the hurdle and make adjustments to negotiate the barrier without sacrificing speed and hurdling efficiency (steering)
Critical Components of the Race

- Stride length and stride frequency are inversely proportional
- Aggressive mental approach with a high level of concentration
- Competitive nature
  - To overcome a variety of setbacks that can occur during the race: broken
- Strength
  - High levels of both maximal strength and strength endurance
- Endurance abilities
- Acceleration, absolute speed, and power
Suggested Training Priorities

- Develop sprinting ability
- Develop speed/strength endurance
  - Rhythm
  - Lactacid power and capacity
- Rhythm Exercises
  - space hurdles at 19-22m
  - 9-11 strides
  - Runs over 4-5 hurdles
  - Runs using non-preferred leg
- Acquire and refine steering ability
  - Runs over 6-9 hurdles at 19-22m
  - Spacing should be different to force athlete to ‘read’ hurdle and make adjustments
  - Smooth transitions using either leg
Suggested Training Priorities

- Develop maximum and specific strength and power
- Develop ability to race over 200m
  - Enhance speed and speed endurance qualities to establish a baseline for 400m improvement
  - Your best 400m should be approximately $2 \times \text{best 200m} + 3.5\"$; To this add 2.5-3.5" for a predictor of best 400m performance.
- Develop ability to race over 400m
  - Learn proper distribution of effort
  - Use 4x400m relay with inexperienced athletes to build confidence.
- Some training should be done over barriers to rehearse certain segments of the race
Thank you!

- Questions and Answers

- References:
  - USATF Coaches Education Level I and II Curriculum Manual, 2006