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100 / 110m HURDLES
Contemporary Technique & Training
PRIMARY CONCERNS

- Teach hurdler to **sprint** over the barriers!
- Analyze for the **causes** of **effects**.
- Coach for **balance**—
  eliminate causes of excessive rotation.
- Stress **concentration**—
  on **every one** of the ten hurdles.
Eight (8) steps to 1st Hurdle optimal for developing hurdler

Differences from sprint start:

- Shorter Stride Lengths to get to optimal take-off distance to 1st hurdle; Last stride is slightly shorter;
- Quicker Stride Frequency then has to be implemented to achieve optimal velocity at 1st hurdle;
- Allow shoulders to come up quicker to get in more upright body position for take-off to 1st hurdle.
• The take-off distance from the hurdle depends on:
  (1) the hurdler's height, and,
  (2) the hurdler’s horizontal velocity at take-off.

• More efficient hurdlers will:
  (1) have a greater % of flight path in front of hurdle,
  (2) take-off closer to hurdle.

• If the hurdler takes off too close to the hurdle, the result will be excessive height over the hurdle.
To initiate the Take-off to the hurdle, the hurdler drives their lead knee towards the hurdle gate.

(Never swing the lead foot up towards the hurdle).

A **fast** lead knee is essential to efficient hurdling!

The take-off leg (which becomes the “trail leg”) **fully extends** at take-off.

- Full extension of the take-off leg ensures a *whip-like* action of the trail leg in Hurdle Clearance.
The head leads the upper body over the hurdle. This results in the lean of the upper body, which can also be referred to as the “dive” or “buck” into the hurdle. The lean of the upper body makes it possible to minimally raise the center of mass to clear the hurdle.
HURDLE CLEARANCE: *Lead Leg*

- When the thigh of the lead leg reaches parallel to the track (hip height), momentum is transferred to the *lower leg*, which then *extends naturally* towards the hurdle.
- The *foot* of the lead leg *reaches its apex in front of the hurdle*.
- The *toe* is *up*.


**HURDLE CLEARANCE: Lead Arm**

- Don’t *reach* the lead arm:
  - Too far forward towards the foot, or
  - Across the midline of the chest.

- Instead, *lift the elbow* and *lay the hand* of the lead arm *in front of the chin* or face.
HURDLE CLEARANCE: Lead Arm

- The **lead arm** then *sweeps* back in a **wide arc** (hand outside the knee)...

- As soon as the arm passes the knee of the trail leg, the radius shortens and it *recovers to* traditional sprinting arm action.
HURDLE CLEARANCE: **Opposite Arm**

- The **other arm** stays relaxed with the hand near the hip on the lead leg side.
- It deviates as little as possible from normal sprinting action.
HURDLE CLEARANCE: Alignment

- Hips and Shoulders stay *square* to the Hurdle, i.e., parallel to the hurdle, and perpendicular to the direction the hurdlers acceleration.
HURDLE CLEARANCE: Trail Leg

- **Pull the trail leg through** over the hurdle in a continuous accelerating motion. (no “posed position”)
- After the knee of the trail leg clears the hurdle, **drive it forward and upward** to increase ground reaction forces in the lead leg as it contacts the track.
• **Hold the lean** (initiated at take-off) throughout hurdle clearance.
• **Paw the lead leg back** to the track aggressively to create *negative foot speed*, but...
• Do **not** snap the upper body back— that takes the hurdler out of good spring position.
HURDLE CLEARANCE: *Landing*

- A Fast getaway stride (the “fall step”) is the result of a high and effective finish of the trail leg technique.
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HURDLE CLEARANCE: Landing

• If the hurdler comes off the hurdle off balance,

• Look for causes— (a) take-off or (b) hurdle clearance
STRIDES BETWEEN HURDLES

“The Hurdles are NOT a Sprint” ~Ralph Mann

<table>
<thead>
<tr>
<th>Description</th>
<th>Hurdle Clearance Stride</th>
<th>1st Stride from Hurdle</th>
<th>2nd Stride from Hurdle</th>
<th>3rd Stride from Hurdle</th>
<th>Hurdle Clearance Stride</th>
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<tbody>
<tr>
<td>Δ D</td>
<td>3.48m</td>
<td>1.48m</td>
<td>2.14m</td>
<td>2.04m</td>
<td>3.48m</td>
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<td>% of D between</td>
<td>27%</td>
<td>38%</td>
<td>35%</td>
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<td>Characterization</td>
<td>“Fall” Step</td>
<td>“Shuffle” Step</td>
<td>“Drop” Step</td>
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STRIDES BETWEEN HURDLES

“The Hurdles are NOT a Sprint” ~Ralph Mann

Stride Lengths in a 110m Hurdle Race (m)

Ten (10) Decelerations ... Eleven (11) Accelerations
STRIDES BETWEEN HURDLES

“The Hurdles are NOT a Sprint” ~Ralph Mann

Stride Lengths in a 100m Sprint Race (m)

One (1) L-O-N-G Acceleration
TRAINING FOR THE 100/110m HURDLES

Lots & lots of *Rhythmic Hip Mobility Drills*

However, **Don’t** do drills “just to do drills”
Rather, drill to:
(a) correct faults, and (b) teach technique
TRAINING FOR THE 100/110m HURDLES

Emphasis should be on **F-A-S-T** Hurdling
TRAINING FOR THE 100/110m HURDLES

PRACTICING THE START

1) Practice the Start at least 2 times a week
   • In preparation for Hurdling, every time you Hurdle
   • Individually, with the focus on mechanics (vs. competition)
   • As a group, in a competitive environment

2) Teach the most effective (FASTEST!) start for every Hurdler... always!
   • 1st 3 steps
   • Measure touchdown preceding 1st hurdle
TRAINING FOR THE 100/110m HURDLES

For increased Stride Frequency
between hurdles, try reps over hurdles with reduced spacing:

College Men:  13m to 1st hurdle,  8.5 - 8.8m between
HS Boys:     12.5m to 1st hurdle, 8.3 - 8.5m between
College Women:  12.5m to 1st hurdle, 8.0 - 8.3m between
HS Girls:      12m to 1st hurdle,  7.8 - 8.0m between
TRAINING FOR THE 100/110m HURDLES

For increased Velocity
between hurdles, try 10 strides to the 1st hurdle and 5 between hurdles:

- College Men: 17m to 1st hurdle, 13m between
- HS Boys: 16m to 1st hurdle, 12.5m between
- College Women: 16m to 1st hurdle, 11.5m between
- HS Girls: 15.5m to 1st hurdle, 11m between
TRAINING FOR THE 100/110m HURDLES

For both increased Stride Frequency and increased Velocity

Lower the hurdles keeping the hurdles the standard distance apart:

- 12” *Banana* Hurdles ➔
- 24” *Scissor* Hurdles ➔
- 30”, 33”, 36”, 39” Standard Hurdles
TRAINING FOR THE 100/110m HURDLES

Don’t ignore “Bounding”

1) A-bounds teach Hurdle Technique, most importantly, fast lead knee and full extension of drive leg.

2) Bounding is invaluable for building explosive strength needed for optimal stride length in Hurdling.
QUESTIONS?

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