



# **100 / 110m HURDLE TRAINING**

**with respect to the Contemporary Technical Model**

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**AIR FORCE ACADEMY**

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Ralph Mann's research has identified that successful hurdlers must:

## 1) Minimize time from start to take-off to 1<sup>st</sup> Hurdle

- Manage Steps
  - Reach proper take-off distance to the 1<sup>st</sup> hurdle
  - Generate highest horizontal velocity possible to that distance
  - Minimize time from start to take-off to 1<sup>st</sup> Hurdle

## 2) Minimize Hurdle Clearance time

- Begin from proper take-off distance to the 1<sup>st</sup> hurdle
- Minimize ground time into and off of the hurdle
- Minimize air time over the hurdle
- Lose as little horizontal velocity as possible over the hurdle

## 3) Minimize time for the 3 steps between hurdles

- Manage Steps
  - Reach proper take-off distance to the next hurdle
  - Regain highest amount of horizontal velocity as possible over those 3 steps

## 4) Utilize mechanics to get the most out of the Hurdle Clearance

- Maximize front-side mechanics
- Minimize back-side mechanics

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From Ralph Mann's conclusions from his video study, he's identified the following "*coaching issues*":

- 1) The importance of the Start is too often ignored.
- 2) Training has been dominated by sprint activity over Hurdle activity.
- 3) The traditional core concepts of Hurdle technique are flawed.
- 4) The mechanics of the steps between the Hurdles has been ignored and any specific training virtually ignored.

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## IMPLICATIONS for TRAINING

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## IMPLICATIONS for TRAINING

### 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 that specific athlete

- 1<sup>st</sup> 3 steps
- Measure *touchdown* preceding 1<sup>st</sup> hurdle

### 3) Provide constant feedback to the athlete

- TEACH: Verbal feedback
- TEACH: Video feedback
- TIME: 3m, or, 3<sup>rd</sup> step *touchdown*; *touchdown* preceding hurdle clearance

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7- vs. 8-step Approach Models

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## 7- vs. 8-step Approach Models



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**“The Hurdles are NOT a Sprint”**

*~Ralph Mann*



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Description	Hurdle Clearance Stride	1 <sup>st</sup> Stride from Hurdle	2 <sup>nd</sup> Stride from Hurdle	3 <sup>rd</sup> Stride from Hurdle	Hurdle Clearance Stride
$\Delta D$	3.48m	1.48m	2.14m	2.04m	3.48m

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$\Delta D$	3.48m	1.48m	2.14m	2.04m	3.48m
% of D between		27%	38%	35%	

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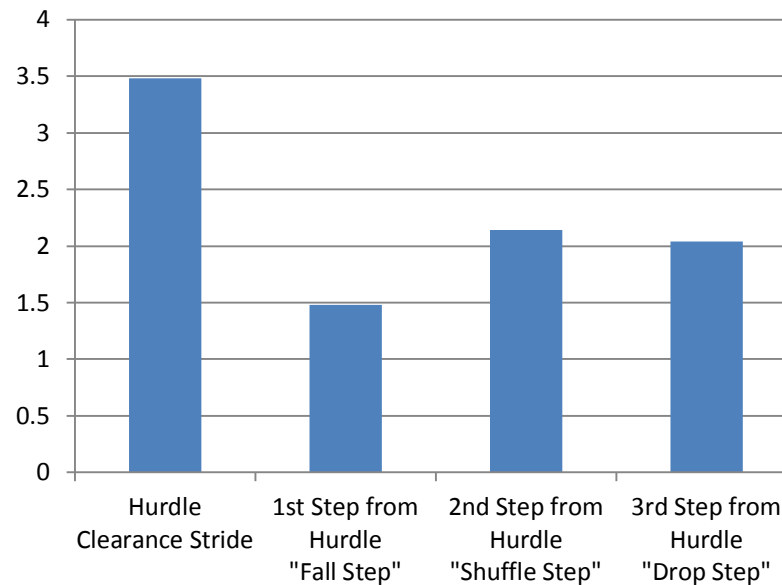
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$\Delta D$	3.48m	1.48m	2.14m	2.04m	3.48m
% of D between		27%	38%	35%	
Characterization		“Fall” Step	“Shuffle” Step	“Drop” Step	

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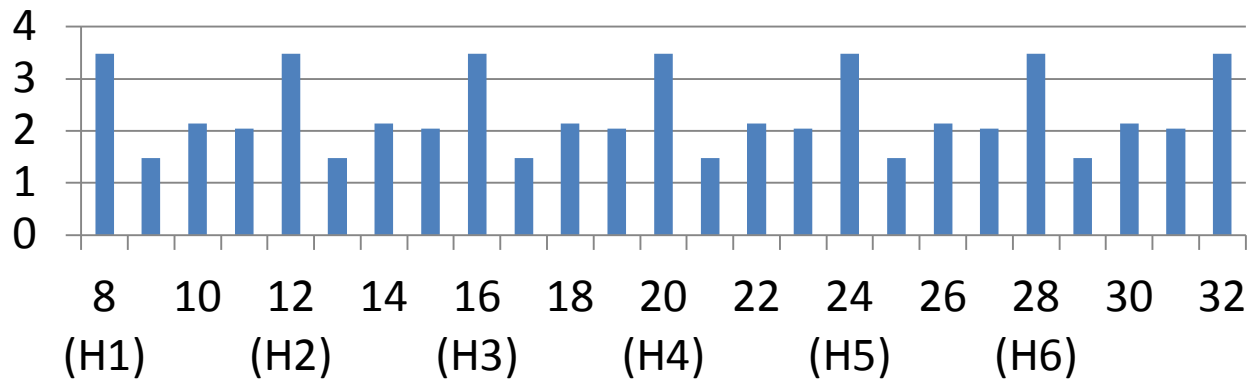
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Stride Lengths in a 110m Hurdle Race (m)



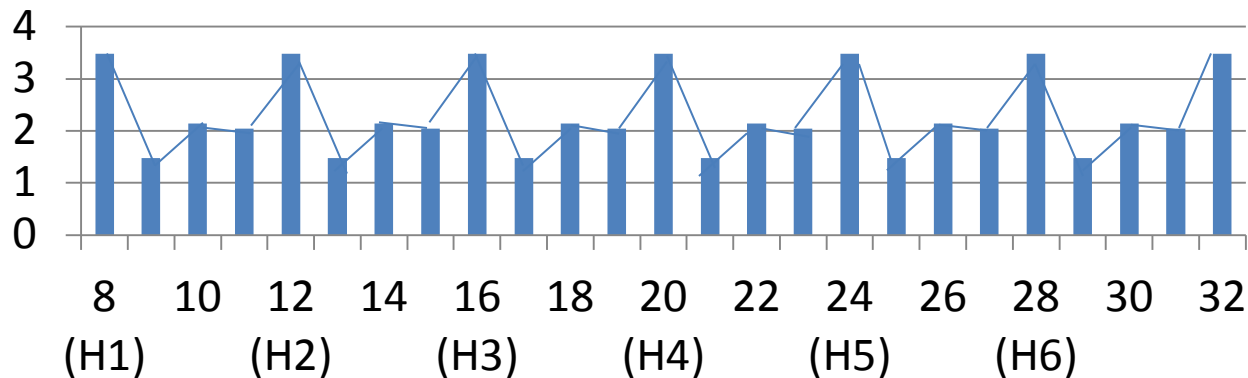
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Stride Lengths in a **110m Hurdle** Race (m)



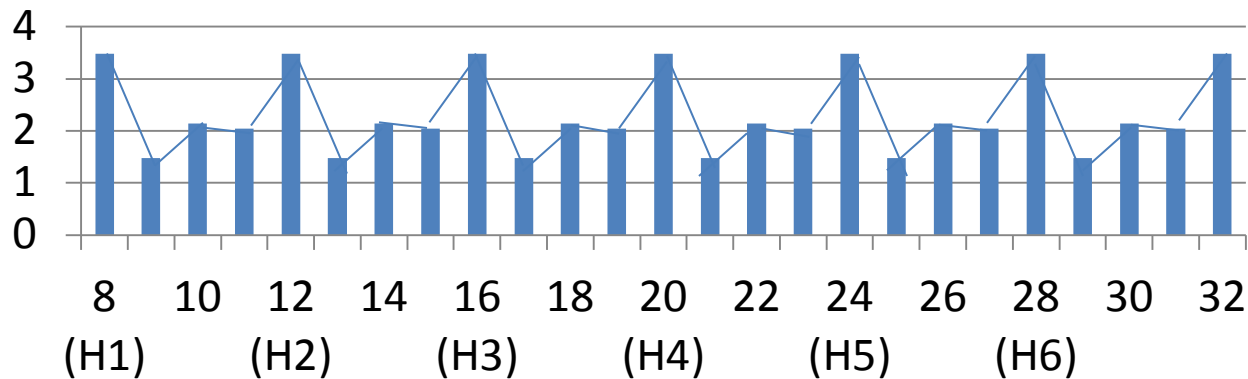
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Stride Lengths in a **110m Hurdle** Race (m)



Ten (10) *Decelerations*... Eleven (11) *Accelerations*

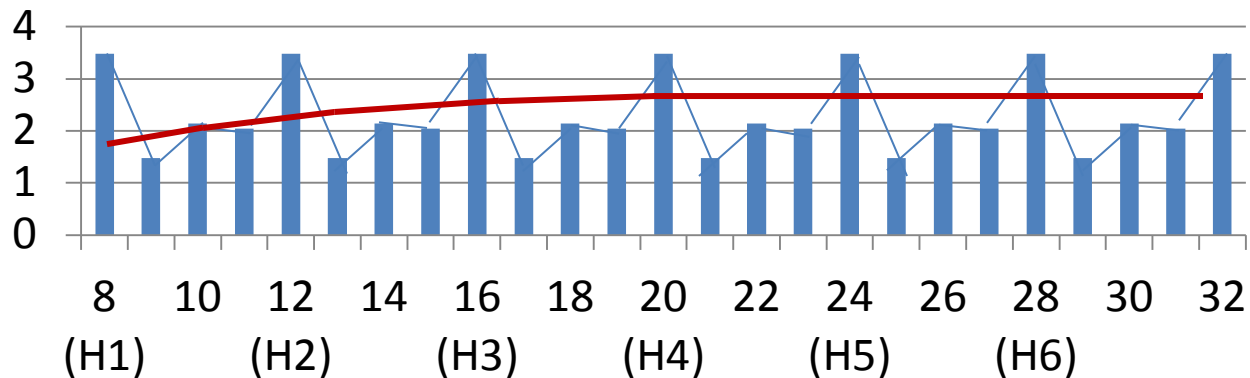
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Stride Lengths in a **100m Sprint** Race (m)





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Slide from 2010 Presentation

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Slide from 2010 Presentation

## PRIMARY CONCERNS



- Teach hurdler to **sprint** through 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.

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## IMPLICATIONS for TRAINING

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## IMPLICATIONS for TRAINING SOLUTION to the “SPRINT vs HURDLE *ISSUE*”

- 1) **Most “speed work” should be done within the hurdle stride length (or stride pattern  $\sim RL$ ) constraints**
  - Stride rate (“speed”) training– at race rates
  - Stride length training– at standard distance, but lower heights
  
- 3) **Provide constant feedback to the athlete**
  - TEACH: Verbal feedback
  - TEACH: Video feedback
  - TIME: 3m or 3<sup>rd</sup> step *touchdown*; *touchdown* preceding hurdle clearance
  
- 2) **Teach the most effective model for each particular athlete**
  - Hurdle technique
  - Step pattern

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## IMPLICATIONS for TRAINING

**Lots & lots of *Rhythmic*  
Hip Mobility Drills**

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## IMPLICATIONS for TRAINING

Emphasis should be on  
***F-A-S-T*** Hurdling

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## IMPLICATIONS for TRAINING

### For increased Stride Frequency

between hurdles, try reps over hurdles with reduced spacing:

<b>College Men:</b>	13m to 1st hurdle, 8.5 - 8.8m between
<b>HS Boys:</b>	12.5m to 1st hurdle, 8.3 - 8.5m between
<b>College Women:</b>	12.5m to 1st hurdle, 8.0 - 8.3m between
<b>HS Girls:</b>	12m to 1st hurdle, 7.8 - 8.0m between

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## IMPLICATIONS for TRAINING

### For increased Velocity

between hurdles, try 10 strides to the 1<sup>st</sup> hurdle and 5 between hurdles:

<b>College Men:</b>	17m to 1st hurdle, 13m between
<b>HS Boys:</b>	16m to 1st hurdle, 12.5m between
<b>College Women:</b>	16m to 1st hurdle, 11.5m between
<b>HS Girls:</b>	15.5m to 1st hurdle, 11m between



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## IMPLICATIONS for TRAINING

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

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IMPLICATIONS for TRAINING

**Don't ignore “*Bounding*”**

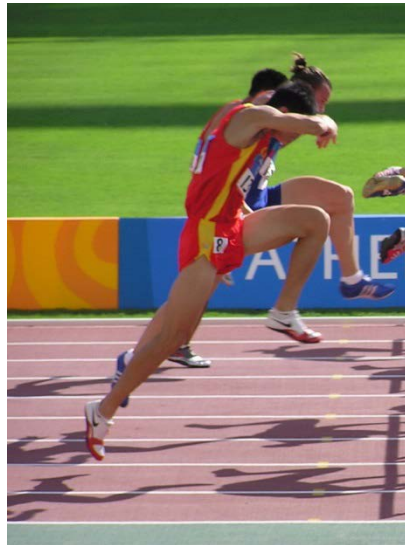
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## IMPLICATIONS for TRAINING

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.

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## OTHER VIEWS on TRAINING

# QUESTIONS?

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