

# The High Hurdles: How to achieve **FAST TIMES!**

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## Demands of the High Hurdles:

- The hurdler must be the best athlete in track and field!
- Why?
  - Jumping 10 hurdles at maximum speed!
- Requirements:
  - Hurdling requires the greatest awareness of stride length and frequency
  - Speed Mechanics
  - **NO FEAR!**

## Understand the Objective:

- Speed Development is PRIMARY!
  - Hurdling Mechanics is secondary
    - Velocity through the hurdle (minimize deceleration) + correct clearance height = **FAST TIMES!**
- Training Philosophy:
  - Majority of preparation goes to developing sprint mechanics and power/speed
- Training Priorities:
  - Acceleration
  - Running Velocity
  - Hurdle Velocity

## Hurdle Clearance

- Clearance height is KEY!
    - Clearance is relative to the performance
- | ■ Clearance Height | Performance Time |
|--------------------|------------------|
| ■ 22-20"           | 18.0sec          |
| ■ 20-18"           | 17.5             |
| ■ 18-16"           | 17.0             |
| ■ 16-14"           | 16.0             |
| ■ 14-12"           | 15.0             |
| ■ 12-10"           | 14.5             |
| ■ 10-8"            | 14.0             |
| ■ 8-6"             | 13.5             |
| ■ 6-4"             | 13.0             |
| ■ 4-2"             | 12.5             |

## Hurdle Clearance

- Distance from the hurdle at take-off is most important factor in clearance height
  - The distance affects the angle of travel (parabola)
  - The angle of travel (parabola) determines distance in landing (touchdown)
  - Distance in landing affects speed in to the next hurdle and timing to take-off
    - If too far, you must sail!
    - If too close, you must vault!

## Training Plan

- Pre-Season: TESTING (every 4-6 wks)
  - Power
    - Standing Long Jump
    - 3 Bound
    - 5 Bound
    - Overhead Shot
  - Conditioning
    - 800, 600, 400, 45 second run
  - Weight Room/Strength
    - Power Cleans, Squats, & Bench Press
    - Body Circuits, Push-Ups, Dips, & Pull-ups, Walking Lunges, Med Ball Exercises

## Speed Development

- Technical Model
  - Arms: Up and Back, Up and Back
  - Legs: Up and around center  
Knee Up, Toe Up
- Pull Quickly*** from the ground
- Imagine riding a bicycle (Rotary Running)

## Speed Development: Stick Drills

- “Forced Mechanics”
  - Goal of Stick Drills is to reduce ground time by mastering stride frequency
    - Stage 1-20 sticks, 5 feet apart
    - Stage 2-20 sticks, progressive length
      - 5 sticks spaced every 5 ft, 5 sticks every 5.5ft, 5 sticks every 6ft, etc, etc
    - Stage 3-Acceleration into 20 sticks
      - Stick 1 at 1m, Stick 2 at 1.1m, Stick 3 at 1.2m, Stick 4 at 1.3m, etc, until sticks become 2m apart

## Speed Development

- 20's, 30's, 40's
  - 3 point stance, from blocks, flying
  - Up to 60m
- Towing
  - Tire Pulls, Sled Pulls
- Plyometrics
  - Box Jumps and Hurdle Hops
  - Sand Jumps (Broad, 3 or 5 singles)
  - Bounding

## Speed Endurance Work

- General:
  - Cross fields
  - Intervals and Ladders
    - Repeat 150's, 100's
    - 200-300-500-300-200
- Specific:
  - Turn Around Hurdle Drill
    - Indoor
      - 3 down and back
      - 4 down and back
    - Outdoor
      - 6 down and back

## Speed Endurance Work

- 3 x 12 Hurdles
  - Do once a week
- Hurdle Spacing for drills
  - Women: 7.5
  - Men: 8.5
  - Reduce distance between hurdles to reduce split times

## Rotary Hurdling

- Develop a Model
  - Touch down time
  - Take-off distance
  - Landing distance
  - Steps between hurdles



## Rotary Hurdling

- 8 acceleration steps to first hurdle
  - Creates drive and rhythm necessary to maintain greatest amount of velocity
- Take off will typically occur 7-8 ft from the hurdle (for men), 6-7ft for women
- Model take-off and landing will automatically govern the three-step rhythm between the hurdles

## Rotary Hurdling

### Model Take Off-Landing

| MEN   |            |            | WOMEN |            |           |
|-------|------------|------------|-------|------------|-----------|
| Ht    | Take-off   | Landing    | Ht    | T-O        | Land      |
| 5'3"  | 7'5"-7'9"  | 2'9"-3'3"  | 5'3"  | 6'5"-6'9"  | 2'9"-3'3" |
| 5'5"  | 7'4"-7'8"  | 3'0"-3'3"  | 5'5"  | 6'4"-6'8"  | 3'0"-3'6" |
| 5'7"  | 7'3"-7'7"  | 3'3"-3'9"  | 5'7"  | 6'3"-6'7"  | 3'3"-3'9" |
| 5'9"  | 7'2"-7'6"  | 3'6"-4'3"  | 5'9"  | 6'2"-6'6"  | 3'6"-4'3" |
| 5'11" | 7'1"-7'5"  | 3'9"-4'8"  | 5'11" | 6'0"-6'5"  | 3'9"-4'5" |
| 6'1"  | 7'0"-7'4"  | 4'0"-3'10" | 6'0"  | 5'10"-6'3" | 4'0"-4'6" |
| 6'3"  | 6'10"-7'3" | 4'3"-3'8"  |       |            |           |
| 6'5"  | 6'10"-7'2" | 4'6"-3'6"  |       |            |           |

## Rotary Hurdling

- Coaching Tips
  - Use ground placement pads/markers at take-off and landing
  - "forced mechanics"-you are forcing the correct take-off and landing, emphasize velocity
  - As a hurdler becomes faster, move their marks

## Hurdling Mechanics

- Visualize jumping through a window!
  - Bent lead knee
  - Chest over thigh
  - Lead arm open and cross midline slightly
  - Important: Never lead with the foot! Lead with the knee
  - Head is always up-looking toward the next hurdle
  - Trail leg leaves the ground almost as soon as the lead leg leaves the ground
  - Trail leg toe is turned up and out

## Hurdling Mechanics

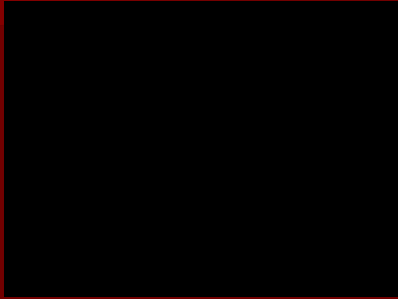


## Hurdling Mechanics

- Differences of Rotary Hurdling
  - 1) Trail leg
    - Trail leg is not swung outward from the body
    - It is brought forward and under the body
    - Action requires a VERY tight trail leg
  - 2) Lead Leg
    - Lead leg falls due to the trail leg coming forward changing the center of gravity
    - Creates a quick rhythm where the trail leg hits the ground as close to the lead leg as possible (sometimes called the "cut step")
  - 3) Velocity
    - Max speed is never really attained
    - Minimize deceleration (move through it!)
    - Create speed after each hurdle jump
    - Rhythm: Hurdle, CREATE, Hurdle, CREATE
    - Create faster splits!

## Hurdle Drills

- B Drills



## Hurdle Drills

- C Drills



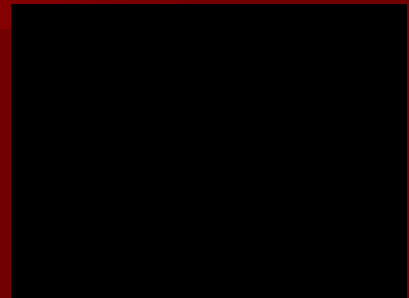
## Hurdle Drills

- Hurdle Step Through Drills



## Hurdle Drills

- Lead Leg Skip Drills



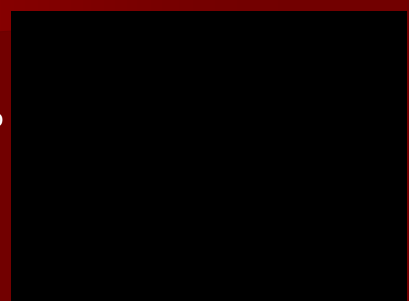
## Hurdle Drills

- One Step Trots



## Hurdle Drills

- Three Step Trots



## Current Collegiate Athlete Progressions

- Jason Richardson (7.53)(13.21)(49.82)
- Johnny Dutch (7.85) (13.63) (48.68)
- Jussi Heikkila (49.52)
- Thomas Hilliard (13.90)(50.55)
- Ronetta Alexander (8.15)(13.08)
- Kettiany Clarke (8.41)(13.52)

## Former Athletes

- Olympians, USA Finalists or All-Americans:
  - Allen Johnson (7.42)(12.92)
  - Terrance Trammell (6.94)(13.19)
  - Melissa Morrison (12.53)
  - Lashinda Demus (12.99)(53.43)
  - Tiffany Ross (12.99)(54.56)
  - Kenny Ferguson (13.53)(48.79)
  - Earl Diamond (13.53)
  - Larry Harrington (13.21)

## Former Athletes (cont)

- Anjanette Kirkland (12.63)
- Ellakisha Williamson (12.81)(57.18)
- Jackie Madison (8.16)(12.92)
- Fred Townsend (13.71)
- Corey Taylor (13.72)
- Terry Reese (13.60)
- Rosland Council (12.84)
- Latasha Colander (13.01)
- Ayo Atterberry (13.30)

## Former Athletes (cont)

- Chad Black (13.72)
- Marcus Stokes (13.72)
- Terrance Zellner (13.90)(48.25)
- Gus Young (13.80)
- James Rankins (13.83)
- Bob Phillips (13.85)
- Aaron Wallace (13.89)
- Sam Phillips (13.90)

## Coaches

- Thank you to all of the coaches and scientists who have helped me throughout my career!
- No one does it alone!