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 5.5 ft, 5 sticks every 6 ft, etc.
    - Stage 3: Acceleration into 20 sticks
      - Stick 1 at 1 m, Stick 2 at 1.1 m, Stick 3 at 1.2 m, Stick 4 at 1.3 m, etc., until sticks become 2 m apart

Speed Development

- 20's, 30's, 40's
  - 3 point stance, from blocks, flying
  - Up to 60 m
- 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
    - 200-300-300-200
- Specific:
  - Turn Around Hurdle Drill
    - Indoor
      - 3 down and back
    - Outdoor
      - 6 down and back

Speed Endurance Work

- 3 x 12 Hurdles
  - Do once a week
- HurdleSpacing 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

Hurdle Spacing for drills
- Women: 7.5
- Men: 8.5
- Reduce distance between hurdles to reduce split times
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), 6-7 ft for women
- Model take-off and landing will automatically govern the three-step rhythm between the hurdles

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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

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Hurdling Mechanics

- Coasting through a window!
  - Use ground placement pads/markers at takeoff and landing
  - "Forced mechanics"—you are forcing the correct takeoff and landing, emphasize velocity
  - As a hurdler becomes faster, move their marks

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Rotary Hurdling

- Model Take-Off and Landing

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<th>Ht</th>
<th>Take-off</th>
<th>Landing</th>
<th>T.O.</th>
<th>Land</th>
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<td>6'3&quot;</td>
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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 trailing 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 Step Through Drills

- Lead Leg Skip Drills

- One Step Trots

- 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)

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