110 and 100 Meter Hurdles - Drills and Training

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These events and their indoor versions (55 or 60 meters) require athletes to negotiate barriers during a race. Athletes who are successful in these events will have the speed of your top sprinters and often are successful at jumping events, 200 meters and 4x100 meter relay legs. This article will discuss start differences between the sprints and hurdles, takeoff and hurdle clearance, workout variations, drills and training suggestions for different weeks. Because of the short distance to the first hurdle in both the men and women's races athletes need to be in an upright posture sooner than flat sprinters. Let's begin by looking at the start and getting your athletes into the blocks.

The Start

In addition to the start sequences described in the long jump article some additional means will be necessary to get athletes to an upright position sooner. Most athletes will take 8 steps to the first hurdle. This will require that their trail leg be in the front of the block. Key points for coaching the start to the first hurdle include getting to an upright position by the fourth or fifth step. The athlete should continue to run through the next to last or penultimate step. In other words, complete push on the ground and allowing the recovery of the leg to the butt (like a regular stride). Keeping this leg folded as long as possible is also a good cue. Athletes will have a tendency to lean before it is necessary. The lean seen in the hurdles is a result of the push from the trail or takeoff leg and should not be seen before the trail leg contacts the ground. Athletes should be as close to sprint mechanics as possible when hurdling. If the trail leg action on the ground is completed correctly, much of the recovery mechanics will be taken care of by stored elastic energy in the hip flexors. The recovery of this leg will be sprint like with the heel recovering very close to the butt of the athlete.

Start Drills

Unders Series

Using either a shot put or medicine ball athletes will do the first throw with feet shoulder width apart. They will start with the implement over their head and quickly bend at the waist and lower the implement so it is between their knees. Then they will throw it forward by pushing on the ground and extending their arms. The ball flight should be somewhat parabolic. Allow them to "chase" or run after the throw as this leads to the next drill. Next have the athlete stand with their feet in a split fashion (like the starting blocks) and repeat the drill. The last sequence is to have them do the drill and run after the throw for four

or five steps.

Standing Long Jump (SLJ) Series

Start the athletes on the end of the edge of your long jump pit. Do a SLJ. Next drill, do the same but with feet astride, land with feet together. Repeat the astride drill landing with feet astride. Last, move away from the pit and add a run to the astride SLJ. This drill helps connect the push from the blocks with get away steps.

Hurdle Clearance

Often this area becomes the focus for athletes and coaches, much like in the air and landing mechanics in the jumps. The approach and first hurdle clearance set up the race. This is why half the workouts described later will address this component of the race. There are differences between the men and women's events. Because the women's hurdles are less of a "hurdling" challenge at 33", women will not need to raise their center of gravity as high to clear the hurdle. Women can get closer to the hurdle at takeoff and will land closer after clearance. Their movements in general will be less amplified.

The men's event requires bigger compensatory arm movements to help counter the leg movements. The men will takeoff and land farther from the hurdle and will therefore be in the air longer. Men will also need to maintain their takeoff position (lean) longer than women do. Upon hurdle clearance, there is a need to reaccelerate. This will occur after each clearance. So a good takeoff sets up the ensuing acceleration by leaving the athlete in position to continue. If the takeoff action was poorly executed, the athlete will need to recover from it after during landing. Watch from the rear that athletes stay in dual track as much as possible. When approaching the hurdle there is a tendency for athletes to plant their takeoff or trail leg in the center of the track. This action not only results in unwanted rotation but usually makes this step too long, resulting in deceleration as well. Watch where the takeoff or trail leg foot contacts the ground. Best case for this action is to have the toe land behind the knee (like pushing at the start). This means the athlete shortened the takeoff step and ran by it as well (little deceleration).

Workout Variations

Essentially hurdle workouts will mirror sprint training. You will have a day dedicated to Hurdle Acceleration consisting of repeated starts over 1-4 hurdles. The theme of this day will be power and its application to starting, so multi throws and jumps will be part this workout. The other technique day will be Hurdle Rhythm or Endurance. This day will usually include at least 3 hurdles and depending on the design of the workout as many 6 or 8 (occasionally). The common theme between these workouts will be discounting of hurdle distances and heights.

This concept may seem at odds with what you are trying to accomplish. However, keeping hurdle workouts at competition distances

will turn practice into a survival situation. These poor technical practices will become what the athlete has to recall when racing. So perfect practice makes perfect. To achieve this in hurdling requires athletes to run at race pace or faster.

How to Discount Hurdle Distances and Heights

Hurdle Heights

• Men's High School Competition Height 39"
• Women's Collegiate and High School Height 33"

Men - Start them at whatever they can clear with good technique. Eventually run most practices at 36" - 39". They need the hurdling challenge; the speed needs can be addressed with discounted distances.

Women - Also start women at whatever height they can handle. Run virtually all women's workouts at 30" or less. Their technique over shorter hurdles will be the same as 33".

Hurdle Distances

• Men: Start to 1st hurdle 13.72 meters or 45', Between 9.14 meters or 30'
• Women: Start to 1st hurdle 13 meters or 42'8" Between 8.5 meters or 27'11"
• Discount Ranges/Suggestions for Men - Start 12.75 meters (41'10") to 13.4 meters or 44' Between 8 meters (26') to 8.85 meters (29')
• Discount Ranges/Suggestions for Women - Start 11.75 meters (38') to 12.5 meters or (41') between 6.5 meters (21'4") to 8.25 meters (27')

These are suggestions only! The low ranges particularly for women will be for beginners. You will have to experiment to determine which distances are appropriate for the athletes you work with. Next are some suggestions for distances when using 5 steps between the hurdles. The standard spacing for a competition race is appropriate but may be to close if you want the athletes to run aggressively between hurdles.

• Men 5 Step Between Hurdles Suggestions - 12 meters (39') to 12.5 meters (41'5")
• Women 5 Step Between Hurdles Suggestions – 11 meters (36') to 11.5 meters (37'6")

Sample Hurdle Acceleration Workouts

Before actually getting into the blocks to hurdle, athletes should "pop over" the hurdles. This is a jog until they get to the last 2 or 3 steps before takeoff, aggressive 2-3 steps to and over the hurdles with an aggressive lead leg touchdown, followed by a slow down before repeating this action. This should be done before Hurdle Acceleration or Hurdle Rhythm workouts.

1. *4-6x2 Hurdles* - Discount distance and height.
2. *Variation on 1* - Discount start and height, five steps to Hurdle 2

(H2).

3. *2x2 Hurdles, 2x3 Hurdles and 2x4 Hurdles* - Discount distance and height or men, discount distance only.
4. *Variation on 2* - 5 steps between H2 & H3, 3 steps between H3 & H4.
5. *No Blocks* - Substitute 2-4 steps and a standing start for above workouts, this will save athletes legs and let them know how fast they can approach H1, breaking down a speed barrier that may exist.

Sample Hurdle Rhythm Workouts

1. *Down and Back* - Run 2-5 Hurdles either from blocks or a standing start discounted, have 2-5 more discounted hurdles set up in the opposite direction for the athlete to return over. These can be the same number as the first flight or different.
2. *Alternate lead trail* - Set up discounted hurdles with only half a hurdle in the lane. Alternate the side the hurdles are pulled to. Athlete will run in center of lane alternately clearing lead and trail.
3. *5 Step Drills* - Use any combination of 5 steps and 3 steps. This gives the athlete time to run hard between the hurdles. It is a great way to introduce hurdles to beginners.
4. *Try a normal start* followed by consecutive 5 step patterns then consecutive 3 steps.
5. *Finish Line Drill* - Have the athletes run 4-6 hurdles with a measured run off to the finish line. They should practice timing their finish line lean.

Hurdle Drills

There are many innovative drills that emphasize different pieces of the event. Many of these, although appearing to be very specific, are in fact either breaking a continuous action into pieces or done so slowly that there is little carryover to the actual event. These drills are fine to do as part of a hurdle circuit to condition or warm up an athlete. Below are 3 drills which focus on ground contact, can be done with or without equipment and have some variations.

1. *Ross Drill (Knee Slap)* - Athlete jogs, holding hands at hip height. Every 3 steps forcefully takeoff (get in the air) in a hurdling action (lead/trail). Both knees should hit the hands then drop back into a jog and repeat. Keys for the drill are to actively takeoff and land. The feet should be heard contacting the ground on landing in a 1,2 pattern. Variations include adding a lean at takeoff and adding short hurdles or barriers.
2. *French Drill* - Athlete jogs with arms moving. Every 3 steps takeoff like Ross Drill but touch the lead foot with the trail side hand and the trail foot with the lead side hand. Use the same ground contact cues as Ross drills and the same variations.

3. *Karate Kid* - With arms held out to side at shoulder height, athlete bounces lead leg with trail leg held in front of body bent at 90 degrees. Every 3rd bounce they actively takeoff by quickly dropping their trail leg then returning to the bouncing pattern on their lead leg and repeating. Variations include bouncing on the trail leg and doing a lead/trail action on takeoff, adding short barriers or hurdles and adding a lean at takeoff.

TRAINING WEEK SUGGESTIONS

5 Days - No Meets

Monday

- Dynamic Warm up.
- Pick a Start drill.
- Hurdle Circuit (Pick 2-4).
- Pop Overs.
- Hurdle Acceleration.
- Weight Training (if supervised).

Tuesday

- Dynamic Warm up.
- Medicine Ball and/or Plyometrics.
- Shorter Interval Training.

Wednesday

- Dynamic Warm up.
- Hills or Conditioning Circuits.
- Weight Training (if 3 days a week).

Thursday

- Dynamic Warm up.
- Up to 90% effort accelerations between 30-60 meters.
- Hurdle Circuit (longer than Monday).
- Pop Overs.
- Hurdle Rhythm.
- Weight Training (if two days a week).

Friday

- Dynamic Warm up.
- Medicine Ball and/or Plyometrics.
- Longer Interval Training.
- Weight Training (if 3 days a week).

5 Days - 2 Meets

Monday

Same

Tuesday

Meet

Wednesday

See Tuesday in 5 day, no meet schedule, eliminate or greatly reduce plyos/med balls.

Thursday

Shake out, Hurdle Rhythm (short session), Easy circuits with long warm up.
(This day will vary depending on your athletes needs, health, time of year and can be different each week).
Friday
Meet
6 Days - 1 Meet
Monday
Same
Tuesday
See 5 day no meet schedule, no plyos/med ball
Wednesday
• Long warm up/easy circuits
• Weight Training?
Thursday
Hurdle Rhythm
Friday
Shake out
Saturday
Meet

References

The Science of Hurdling - McFarlane
Speed Dynamics Hurdle Video Volume 1 & 2 - Seagrave & O'Donnell

Hurdles Shoes, Books, Videos and Equipment

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