

Attacking to the First Hurdle in High Hurdle Men

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1. Introduction

The sprint hurdle for men was included in 1896 Olympics webster states that in England 1837 there were hurdle races for tutors dames houses were solid ship rigidly states into the meadow. Around 1900, in USA the inverted "T" shape hurdle come into Existence. A disqualification occurs if 3 hurdles knocked down "L" shape hurdle was introduced in 1935.

- Hurdling is sprinting with rhythm.
- Hurdling deviates as least as possible from normal sprinting.
- The abilities needed in hurdling are very similar to those needed in the sprint events, and should be developed the same way.
- Our focus, first, last, and always must be establishing and maintaining SPEED between and over the hurdles.
- In start and the approach to the first hurdle the hurdler has to cover a distance of 13.72m for the first hurdle.
- The aim is the cover the approach distance a fairly high speed.
- The 110mts high hurdles can be divided into 6 main parts.

a) Start, b) Approach to the first hurdle , c) Take-off, d) Hurdle clearance, e) Run in between the hurdle, f) Last hurdle to finish

2. Specifics to the 110 hurdles

The approach to the first hurdle is of decisive importance. The is due primarily to the fact that, if one allows. 2.10-2.20m for the distance between the take-off point and the first hurdle, the athlete is left with only about 11.50-11.60m in which to accelerate to the optimal to the whole race.

- Athlete must develop a high speed at the first hurdle is of great importance for the final performance, since no essential speed acceleration is achieved between the hurdle.
- The choice of the front leg in hurdling at start must be the same leg as the take-off leg for the leg in hurdling start.
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3. Technical Demands in the Start

- The sprinter hurdle will initially use a medium start. This will have to be modified at regular intervals as his speed and technique improve.
- The sprinter is encouraged to keep his body low for some distance out of the blocks.

- Advanced hurdlers need to modify the sprint acceleration process (out of the blocks) in order to better negotiate the hurdle.
- Stride length is sacrificed in order to fit eight steps into the acceleration to the 1st hurdle.
- Range of motion at the hips is decreased.
- Stride frequency is higher in the approach to the 1st hurdle.
- Low heel recovery in drive phase.
- The progression of the body angles must occur quickly to better prepare for the 1st hurdle in 8 steps.
- Hips are tall by stride 6 in order to prepare for attack of 1st hurdle.
- The athlete must use same leg as the take-off for the first hurdle clearance (8 stride approach) and it is reverse for 7 stride generally, 8 stride are taken to the approach to the first hurdle

4. Approach to the first hurdle

First stride	0.60 0.60
Second stride	1.10 1.70
Third stride	1.35 3.05
Fourth stride	1.50 4.55
Fifth stride	1.65 6.20
Sixth stride	1.80 8.00
Seventh stride	1.90 9.90
Eighth stride	1.80 11.70
Take-off distance to the first hurdle	2.20 13.72
Landing behind the hurdle	1.40 1.40

5. Mechanical Demands

- Increasing stride frequency and developing faster rhythms are important goals.
- The drive phase should extend until the 3rd hurdle.
- Push off angles at touchdown is primarily vertical, as in maximal velocity.
- Range of motion in the hips between the hurdles is usually decreased, due to the "shuffle" steps.

6. Hurdling Techniques

- Block Start:
 - Lead leg in the back block (quick side)
 - Trail leg in the front block (power side)
 - Normal sprint start: aggressive, powerful, quick arms, quick legs, focus.
 - At "set" focus on pressure back into the pedals.
- Start to the 1st hurdle:
 - Hips tall after 6th stride
 - Arrive at hurdle in a position ready to negotiate the barrier
 - Consistent stride pattern (frequency)
 - "Race" to the take-off mark (1.7 – 2.0 m).

- At “cut step” focus on pushing the “hips” through the hurdle.
- Lead with the knee, not the foot.
- Lead-Leg:
 - Punch the knee toward the hurdle, don’t lead with foot.
 - Flexed knee, not locked
 - At top of hurdle, thigh decelerates causing the lower leg to swing forward (extend)
 - As foot clears the rail, thigh accelerates down and back into the track.
 - Landing should be “hips tall”, no mushing out
 - Touchdown landing should be about 1 – 1.5 m on the back side of the hurdle
- Trail-leg:
 - Toe up, heel up, knee pulled tightly to the body
 - Punch knee through, rotate knee and foot outward, keep heel and knee level, so as to not bang inner-ankle on the rail.
 - As entire leg clears the rail, punch knee forward (close the door), and accelerate foot down and back into the track.
 - Landing should be “hips tall”, no mushing out
- “Get-away” Stride:
 - Trail-leg landing on back side of the hurdle.
 - Toe up, knee up, aggressive drive down and back into the track.
 - Hips tall, no mushing out.
 - Good, stern body posture
 - Active arms to balance your forward momentum

7. Arm Actions

- Lead-leg Arm (right):
 - Forearm flexes and extends forward
 - Rotate arm internally
 - Elbow angle same as lead-leg, knee angle (30 – 45 degrees)
 - Arm stops at shoulder level.
 - As C of M passes over the hurdle rail, drive lead arm back and down.
- Trail-leg Arm (left):
 - Little deviation from sprinting form.
 - With bent elbow, trail arm opens out to the side (elbow up) to allow trail-leg to pass underneath.
 - As trail-leg passes, arm drives outward and backward to balance lower-limbs
 - A trail-leg touchdown, arm is thrust forward to continue sprint form.

8. Too high over the first hurdle

- Fault
 - Too close to the hurdle
 - Power foot planted on heel
 - Non-existent or non-active cut step (normal step)
 - Lead was with the foot, not the knee

- Athlete afraid of hurdle (hesitant, threatened)
- Correction
 - Keep athlete in sprint posture longer
 - Practice hips tall, make cut step active and on the toes
 - Rehearse proper lead leg mechanics and body posture going into the hurdle
 - Use breakaway hurdles in practice (reduces threat; confidence increase)

9. Off balance coming off the hurdle

- Fault
 - Lead leg and opposite are driven inward and not in the direction of travel
 - Trail leg opening too soon
 - Athlete may be too close to the hurdle
- Correction
 - Work on synchronizing lead leg mechanics; use sprint arm action, not across the body
 - Work on synchronizing trail leg mechanics and keeping the leg folded until knee is pointing in the direction of travel.

10. Hitting hurdles late in the race

- Fault
 - Loss of rhythm
 - Too close to hurdles
 - Loss of concentration
 - Fail to maintain hips tall position causing athlete to sit and not maintain good sprint mechanics
- Correction
 - Trail leg opening too soon, thus causing getaway stride to be too long resulting in power foot being too close to the next hurdle
 - Maintain tall hip position and good sprint mechanics
 - Keep trail leg tight and shorten getaway stride
 - Learn to control attention to what’s happening in your lane
 - Concentrate on your own rhythm.

11. Conclusion

The distance from the starting line to the first is 13.72 for the 110m hurdle race. The approach to the first hurdle is of decisive importance. This is due primarily to the fact that, if one allows 2.10-2.20 for the distance between the take-off spot and the first hurdle, the athlete is left with only about 11.50-11.60m in which to accelerate to the optimal take-off point. A limited acceleration distance applies to the whole race. Therefore, in order to attack the other 9 hurdles at the highest possible speed a similar precision of approach behavior must be the goal.

So the athlete only continues his positive acceleration from the first hurdle onwards by increasing his stride rate. Generally, eight strides are taken to the approach to the first hurdle. Unlike a sprinter the hurdle comes into the top sprint and a higher

body angle by the 3rd or 4th stride so as to adjust for the take-off. The first three last two stride should remain 'constant' The maximal acceleration up to the 1st hurdle with visual control from the 5th stride onwards.

The 1st step out from blocks depends on the technique . in the first half of the approach run the athlete and in the second half he prepare for the take-off

References

1. Aronald. M. (1985) :BAAB, p. 9
2. Dobertykennh.j (1967) : Track and Field movies on paper
3. Hamlyn (1985) : Encyclopedia of athletics, p. 37
4. Jerver J. (1981) : Athletics fundamentals , p. 37
5. Myna. T (1975) : Athletics track events (NWBSCS)
6. Phogot W.S. (2004) : Starting techniques and advantages of short last stride, study material on hurdles for course students