



TEACHING STAGES IN HIGH HURDLE RACES

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ABSTRACT

The two major hurdle races for men appeared in the mid-19th century in England. The present study focus on the different Phases of 100 mts (women) and 110 mts (men). Hurdles event. Present study focus on how an athlete set the block, position of the block and alignment of the block. Three methods are discussed about the setting of blocks. After that approach run is described then leading leg action is explained. The lead leg should remain slightly bent over the hurdle. Once over the hurdle, the objective is to get back down to the track as quickly as possible. Next step is trailing leg action, once the take-off leg leaves the track, it becomes part of the trail leg and other action of body is described. How to touch down is important in hurdles and role centre of gravity in trunk movement and arm movement. Next phase is landing, Trail leg stays tucked until touchdown then it pulls quickly and actively forwards. Stepping between hurdles, generally in high hurdles 3 stride patterns has been used. Stepping last hurdle to finish line finish the race with technique of lunge finish or shoulder shrug finish. Hurdling, sport in athletics (track and field) in which a runner races over a series of obstacles called hurdles, which are set a fixed distance apart. Right technique is always give best results to athletes.

KEYWORDS: Hurdle, Athlete, Stages of hurdle

INTRODUCTION:

The two major hurdle races for men appeared in the mid-19th century in England. Around 1830, hurdle races of 100 yards were run over heavy wooden barriers. The distance was extended to 110 meters in 1888. The elongated hurdle race at 400 meters was introduced around 1860 in Oxford. Runners jumped over 12 heavy wooden barriers that were spaced equal distances apart. The 110-meter hurdles were introduced as an Olympic Games race in 1896, just after the heavy, solid hurdles were replaced with lighter-weight hurdles that could be knocked over forwards. The 400-meter hurdles became an Olympic sport for men in 1900. The first women's hurdle races were run in 1926 over a distance of 80 meters. The event attained Olympic status in 1932. In 1969, the distance was extended to 100 meters, which became the standard at the Olympics beginning in 1972. Women didn't run the 400 meter hurdles at the Olympics until 1984. The first great male hurdler was an American, Alvin Kraenzlein, who created the modern technique of striding instead of jumping over hurdles while taking three steps between barriers in the 110-meter hurdles. Babe Didrikson Zaharias, voted the best woman athlete in the world from 1900 to 1950 by the Associated Press, won the inaugural 80-meter hurdles for women at the 1932 Olympic Games in world record time. Hurdling is, because of its technical and energy demands, an exciting and challenging event. The technical component of hurdling is clearly much greater than in sprinting, yet the concept of the hurdles race must be one of a sprint, with adjustment for each hurdle.

HURDLE RACE:

- Hurdle is a track event in which artificial barriers must be leaped.
- A race in which people have to jump over a number of obstacles while running.
- A race in which contestants must leap over a number of such barriers placed at specific intervals around the track.

Hurdling, sport in athletics (track and field) in which a runner races over a series of obstacles called hurdles, which are set a fixed distance apart. Runners must remain in assigned lanes throughout a race, and, although they may knock hurdles down while running over them, a runner who trails a foot or leg alongside a hurdle or knocks it down with a hand is disqualified. The first hurdler to complete the course is the winner.

Types of hurdles Races:

- High hurdles:- 110mt for men and 100mt for women
- Low hurdles:- 400mt for men and women

STAGES OF HURDLES TECHNIQUE:

1. Start:

Setting of blocks:

There is three method of setting up the starting blocks

First method:

- Align blocks in direction of start.

- Place starting blocks one foot-length from the starting line.
- Place front pedal two foot-lengths from the starting line.
- Place rear pedal two and one-half to three foot-lengths from starting line or approximately one foot-length from the front block.

Second method:

- The blocks are set behind the starting line, front block should be 16-20 inches from the edge of starting line.
- The rear block distance varies according to individual but is usually in the range of 14-18 inches between blocks.

Third method:

- Front block is placed 1½ foot lengths behind the starting line
- Rear block is placed 1 ½ foot lengths behind the front block - 3 feet from starting line.
- Front block and back block is usually set between 35° and 45°.

The front and back pedals will have to be adjusted depending on the athlete's preference. When you travel to compete, starting blocks are different.

On your marks:

- In this phase five body parts touch with ground is necessary
- Body weight evenly distributed between the hands. The back knee is resting on the ground.
- Strong foot place on the front block
- The arms are placed shoulder-width apart and straight. Fingers, turned outward, and thumbs, turned inward, form bridges to support the arms.
- Shoulders are in line with the hands and the head is looking down.

SET:

- Sprinters raise their hips by lifting the knee of the rear leg off the ground
- In this position body weight should be shifted on his/her shoulders and shoulders are move forward to apposition which is slightly ahead of starting line.
- Eyes should be fixed on starting line.
- The angle of the front leg knee should be about 90 degrees and rear knee about 120 to 130 degrees.

1. The Gun/Go/fire:

- The head remains in natural alignment with the trunk and forward lean of the whole body at approximately 45 degrees from drive leg to head as seen in the drawing on the below.
- In good sprinters the reaction time is about 0.12-0.18 sec.

2. Approach run starting line to first hurdle:

- The distance from the starting line to the first hurdle is 13.72mt for 110mt hurdle and 13.0mt for 100mt hurdle race.
- Eight strides are taken to the approach to the first hurdle.
- Taller man with good sprinting skills will find that the approach distance of 13.72 to metres is too short for eight stride they achieve a better Momentum by using only 7 stride.
- The distance left for completing eight strides is 11.70 metres for men and 11.05 metres for women respectively.

3. Take off:

- The take-off at each hurdle is crucial because it must be part of a continuous acceleration through the initial stages of the race.
- Hitting a hurdle or landing off-balance will result in a loss of speed, which can never be recaptured in a race of 100 to 110 meters.
- During take-off the first hurdle take off requires between 2.02mt to 1.95mt for men and women respectively.
- If the take-off is too far it will result in Lead leg knocking the hurdle and through the Hurdler off balance and thus spoil the stride rhythm.

4. Cross over the hurdle:

Total stride length during hurdle clearance will be 3.05 to 3.42 meters

Expend the minimum time in flight.

a) Lead leg action:

- The lead leg should remain slightly bent over the hurdle.
- Once over the hurdle, the objective is to get back down to the track as quickly as possible.
- This is accomplished by a snap-down action of the lead leg.
- Using the opposite elbow and lower arm for balance.

b) Trail leg action:

- Once the take-off leg leaves the track, it becomes part of the trail leg.
- The heel of the trail leg should come to the buttocks with the toe pointed out to the side so the foot will avoid hitting the hurdle. For a short, quick lever over the hurdle, trail leg position should be high and tight, with the knee under the armpit and the heel close to the hip.
- Avoid a "flat" position with the hip, heel and foot all on the same horizontal plane. The action of the trail leg should be a continuous movement during the hurdle clearance, without a pause, or float, over the hurdle.
- As the trail leg pulls through, the lead arm will swing to the side in wide arc as a response to the trail leg action. The shoulders remain square to the hurdle throughout.
- Trail leg is drawn alongside the body.
- Thigh of the trail leg is roughly parallel to the ground at clearance. Angle between the thigh and lower leg is about 90° or less.

c) Touch Down:

- The hurdler should land on the ball of the foot and not drop to the heel.
- The trail leg knee must drive forward, not drop to the side, for a long first stride to the next hurdle.

d) Trunk movement:

- In good hurdle technique the trunk's forward thrust at take-off ensure the body CG is thrust forward in a low trajectory during hurdle clearance.

- At all times the hurdler's eye focus must be directed at the middle of the top bar of the hurdle to maintain balance.
- The trunk's forward leaning position is not achieved only as a result of an intentional dipping of head and trunk down to meet the lead leg thigh.

e) Arm action:

- Arms play the role in balancing the body during the hurdle clearance stride from take-off to landing.
- The lead leg's extension is coordinated with the opposite arm being extended as a counter balancing movement.
- This assists in trunk lean in hurdling the lead arm and shoulder must also be thrust forward to ensure body.

5. Landing:

- Landing leg is 'stiff'. Landing is on the ball of the foot.
- Body should not lean backwards on landing.
- Trail leg stays tucked until touchdown then it pulls quickly and actively forwards.
- Contact with the ground is brief, the first stride is aggressive.
- To assist the downward movement of the leg, the trunk must be brought upright after clearing the hurdle, but avoid leaning back.

6. Stepping between hurdles:

- Total distance between hurdles for 110m hurdles is 9.14m and 100m hurdles is 8.50m.
- Generally in high hurdles 3 stride patterns has been used
- First stride after landing will always shortest which is of about 1.55 to 1.66 meters
- And other strides will be 2.00 to 2.20 meters

7. Stepping last hurdle to finish line;

- Total distance of last hurdle to finish line in 110m hurdle is 14.02 and for 100m hurdle its 10.50.
- After cross the hurdle athlete take free and fast stride.
- And finish the race with technique of lunge finish or shoulder shrug finish.

CONCLUSION:

Above mention phases of technique are to help teach the technique of hurdle. Those phases are given in detail and help to understand the technique of high hurdle. We mentioned the start to finish the race. In this phases main given the stress on cross over the hurdle phase, which is most important phase of hurdle technique. Like lead leg, trail leg, trunk movement, and arm action. These phases also help to teachers or coaches to train the beginners.

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