Developing Attack Into & Over the 400m Hurdles Barriers

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Introduction

A common difficulty in 400m hurdling is judging the approach and attack into and over the hurdles. Unlike the sprint hurdles with its closely spaced 3-stride-between barriers, the 400m hurdles presents the athletes with a number of issues in ensuring that there is smooth continuity of speed across the barriers.

Spatial awareness is primary in judging the approach to the hurdle and while for the novice hurdler this may preset difficulties at any stage of the race, even for the more experienced one lap hurdler, factors such as the change down to put in an extra stride as fatigue cause the stride to shorten or even simply strong wind conditions can cause the athlete to lose rhythm in between the 35m spaced barriers and arrive much too close or much too far away to take the hurdle without a marked late adjustment - usually resulting in loss of velocity through either over striding or, more commonly, short stuttering steps in the last few approach strides.

It is common when this latter mistake occurs to see an athlete lean their body back and drop onto their heels as they brake to accommodate the hurdle, with use of the arms all but stopping. The following drills look at ways of both developing spatial awareness but also technical coping strategies that can be employed to help the athlete maintain attack into and away from the hurdle.

Whilst an athlete's technical ability to hurdle off either leg, may dictate at what level such drills are employed, and many of the concepts here are similar to the earlier 2001 article looking specifically at developing confidence of approach and clearance on the non dominant leg, the issue here is very much focused on the spatial awareness factor although there is obvious overlap as the outcome - speed across the hurdles- is the same goal in maintaining velocity.

[1] At a basic level of spatial awareness development, the athlete is asked simply to run over several pairs of cones in a straight line over a distance of anywhere between 60 to 100m. In the first instance these pairs are 3-4 ft [90-120cm] apart and the pairs then randomly spaced [but generally 10m to 30m between successive pairs] along a lane line.

Run1

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where © represents a cone.

These spacings should be varied so as to prevent a set distance and hence a set stride length being employed by the athlete- - the more variation in distances between the paired cones the better. The athlete is simply asked to run at their 400m Hurdles pace along the lines with the target of always striding over the gap between each paired cone. At only a 3-4ft 'gap' to be negotiated, this should present little difficulty for the athlete to clear and they can concentrate fully in simply extending or shortening their stride between the paired cones to make sure they do not step in any of the gaps - no specific modification needs be made to the clearance stride in terms of a hurdle action at this stage.

After each run the spacing between the paired sets should be changed to present the athlete with a new spatial challenge each time. This can also be achieved by adding or subtracting sets of cones:

Run 2

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Run 3

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Run 4

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It should be noted that the flattish collapsible cones should be utilized for this drill, not the more solid hemispherical dome versions which will not 'give' if stood on.

[2] The hurdle clearance stride is obviously of much greater length than the gap utilized in step 1 and next development is to space out the gap between the paired cones to present more of a challenge in the depth of the 'clearance stride'.

At elite level the clearances strides should be around 3.50m men and 3.20m women in a non fatigued state, if setting up and clearing the hurdles well [Mann 2002], therefore the gap between the paired cones should be progressively extended out to 7, 8, 9 or even 10 ft [given that there is no requirement to additionally clear an actual barrier]

The format is basically the same, but with two changeable factors: [1] the spacing between the paired cones and [2] gradually increasing the distance between the pairs to make a more realistic hurdle stride. This increase must be done only in relation to the athlete's own competence at t being able to adjust and still drive long across the gap and not purely for the sake of variation.

Run 1

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Run 2

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[3] The next progression is to replace the cone gap with hurdle barriers - initially these can be lower than race specification if an athlete's confidence is an issue and may also be a useful ploy if working with relatively inexperienced hurdlers.

Again altering the spatial challenge between the hurdles on each run is the important factor in continually presenting the athlete with as many slight variations in their attack into the hurdle as possible but as Winckler suggests to give the athlete a cue to attack, a cone is placed on the side of the lane 8 to 12m before the hurdle, as the athlete runs as they reach the cone they focus on attacking hard into and over the hurdle NO MATTER WHICH LEAD LEG THEY MUST NEGOTIATE THE HURDLE WITH.

Obviously the greater the distance the attack cone is from the hurdle the more time the athlete has to make adjustments for a smooth clearance but at the same time the concept is to force the hurdler to attack off either side, so the later the push on towards the hurdle the less time there is to switch to the dominant side,

so although the distance from the cone to the hurdle can be varied, the athlete should not be given too much time to adjust.

here -I--- represents a hurdle or training hurdle and -©- represents 'attack cone' at the side of the lane

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[4] The final progression in this drill sequence is to repeat stage 3 but at full hurdle height. By reducing numbers of hurdles negotiated in one run, with greater distance in-between, the scenario will become more reminiscent of the 400m hurdles race structure.

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[5] An alternative cue to attacking into the full barriers would be to have the athlete jogging away from a single hurdle in the opposite direction. When the coach blows a whistle, the athlete must turn and sprint to and over the hurdle, again regardless of which lead leg is used.

*whistle

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Here the variation of when the whistle is blown gives the different situations of length of attack into the hurdle.

The above sections 1-5 represent the development of a common theme, its is for the coach and athlete to decided which level presents the most suitable level of challenge for the athletes current stage of development, as indeed is detailing how many runs of each level should be implemented in a work out. However, it may be worth considering examining an athletes ability to attack into the hurdles in a fatigued state as well as in the context of single runs when relatively fresh whatever the level being worked on. This is easy enough to achieve with either jog back recoveries or setting up two lanes working in opposite directions for turnaround type workouts [obviously for the cone clearances, the same lane can be used for both directions!]

References

G Winckler: Presentation for Royal Bank of Scotland Hurdles Squad March 2001

R Mann: The Mechanics of Sprinting & Hurdling 2002 Edition

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