

The Development of Confidence for Non-Dominant Lead Leg Hurdling in the 400m Hurdles Event

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Introduction

There is in the majority of cases the need for a 400m hurdler to be able to hurdle off either leg during the course of a race. Whether the athlete's natural stride length dictates that they run initially with an even [same leg] rhythm between hurdles or an alternating pattern [utilizing both their dominant and non dominant lead leg], with relatively few exceptions [of whom Edwin Moses is the most notable example] the majority of 400m hurdlers have to affect a change down and add in an extra step[s] within the duration of the event, as fatigue causes stride length to shorten, on one or possibly more occasions

Athletes who have very weak technique with their non dominant side may be tempted to work a change down where TWO additional strides are added to the stride pattern at the appropriate place in the race, but although Hemery's Mexico victory showed that this be achieved at the highest level, a more natural reduction in stride length would see just one additional stride be added. Thus for most athletes, the event demands the development of bi-lateral technical hurdling skills

However, it is not uncommon to see athletes who, although they can perform hurdle drills at reasonably proficient level of technical ability, find it much harder to transfer this skill into the heat of a race situation, whether through a lack of technical endurance or from a visual perception/confidence perspective. It is this latter aspect that is addressed in the main here.

Developing Confidence

This article looks at ways to develop an athlete's ability to hurdle on their non dominant leg from being able to perform a reasonably proficient non dominant technique in a drills type [or closed skill type] situation to translating this hurdling ability into a more open type skill situation, as is commonly found in 400m hurdling. Here fatigue induced change down, wind strength and direction and competitive stresses all place upon the athlete the need to hurdle proficiently off either leg, with the athlete being presented with many slightly differing situations on their approach to a hurdle than in a sprint hurdle or drill type situation.

Problems here mainly manifest themselves in perceptual problems; the late 'sighting' of the hurdle results in late stuttering to accommodate a smooth approach to the hurdle or, even more costly in terms of the maintenance of velocity into and away from the hurdle, the desire / tendency to add in extra strides to ensure clearance with the dominant lead leg.

The following work outs look at ways in which hurdling ability can be gradually transferred from proficient drills type skill ability into more adaptable 400m hurdling, with the development of confident non dominant lead leg hurdling being the aim. The sessions are given sequentially and the athlete and coach may work quickly through the initial sessions if within their compass to find a suitable stage to build from, but experimentation with different hurdling situations is in any case the key to developing an adaptable model of bi lateral hurdling ability.

If wanting to do technical work on both lead legs, starting with the non dominant can help avoid the temptation to revert 'to type' and, in terms of volume, working on a 2/3 or 3/4 ratio on the non dominant side gives the developmental aspect of the session greater emphasis.

The suggested sessions below are by no means the only approaches to this problem, but have been found in my opinion to offer workable solutions to the development of this ability.

[1] Drilling over 4-5 hurdles: having established a good or serviceable technique on given close spacing - typically the 110/100m hurdle marks + 4 pigeon steps for 5 step hurdling, within the same session extend out the number of steps that the hurdles are off the marks. e.g. 2 runs at +4, followed by 2 runs at + 5, 2 runs at + 6 and 2 runs at +7. This forces the athlete to start working harder and therefore whilst in a relatively closed skill situation, the athlete will **experience taking the hurdle smoothly at a variety of different speeds**. This can initially be done in isolation for the non dominant lead leg, especially where the athlete has a tenancy to revert to his/her preferred leg – if only one leg is actually clearing the barrier it is easier to focus in on the lead leg action.

[2] With 4-5 hurdles on the straight either using 200m hurdle spacing or every other sprint hurdle spacing open out strides in between [typically 7 to 9 strides if on 200m hurdle marks depending on athletes stature and stride length]. Ensure that the first hurdle cleared in on non-dominant side and there is a smooth approach to this use check mark if need [a helpful tip is to ensure that the athlete is always approaching the hurdle with a good knee pick up as this lessens the change of knee attack needed for the less familiar lead leg action of the non dominant side]. If the athlete is maintaining the same lead side [i.e. the non dominant] then fine, if alternating a key goal is to make sure having worked back on to the preferred side, the athlete can again switch to the non dominant for the subsequent hurdle unit. Again start at a controlled tempo and in the course of time gradually increase speed by stepping out the hurdles off the mark

[3] Repeat [2] but working around the bend, as **bend hurdling places greater stress on a lesser well established technique**.

[4] Random spaced hurdling. When the athlete seems to develop better quasi closed skill hurdling. Set up 4-5 hurdles initially on the straight which are at least 16m apart but varied in exact spacing [so can be anywhere from say 16 to 22 m apart.] Again insure first hurdle is cleared with the non dominant, then working at smooth pace with good knee pick up, work into subsequent hurdles without major adjustment. **Emphasize that there is no right or wrong leg to clear each hurdle with – you are looking purely for minimal stuttering to disturb rhythm**. Adjust hurdle spacing after every two runs with 10-12 runs in total. Winkler notes that on such sessions the use of a cone, 10m out from each hurdle gives a cue to attack into each hurdle, so that regardless of preference a strong determined approach is made suitably close to the hurdle so as to circumvent a late switch to the dominant lead side if this is not the appropriate leg to take the hurdle with.

[5] working on full 400h spacing clearing 4 hurdles – This can be initially attempted at a sub-maximal stride/tempo i.e. if your normal pattern is 15, initially use 16 strides between the barriers OR if normally 16 use 17. If your speed dictates that you alternate, this will ensure that you should work from Non dominant – dominant - Non dominant – dominant, getting used to the ability to work 35m spacing from one side to the other. If on a even stride pattern try to **use as a closed skill for the non-dominant side** – albeit with a big, but known distance in between - and gain confidence from hurdling an even stride pattern.

[6] Repeat but at Race tempo – now working at race spacing and race speed - with non-dominant lead leg or alternating pattern

[6a] An alternative here would be Hurdle Optimals [Winkler]. Again using 4-5 hurdles on the straight at regular intervals — run from check mark at desired race tempo over the hurdles which are between 17 and 22 m depending on the individual, but spaced so that the athlete **must run at speed into and away from the hurdle** on 9-10 strides. Though this can be used for dominant leg hurdling as well, it is a very useful way of increasing the numbers of hurdles taken at race tempo, without covering as much distance as would be necessitated by working off the full 35m marks.

[7] Another session designed at developing speed and confidence is to sprint hurdle with 3-stride spacing with the non dominant leg over 5-6 hurdles at 400m hurdle height from normal three point start. It will put the technique under stress through the speed of approach and clearance, and thus develops the ability to perform the motor program at a very quick tempo. It should be stressed that this will not necessarily develop any spatial awareness due to the relatively close [closed skill] spacing in between, but the session can help with confidence in being able to attack the hurdles at speed with the non-dominant lead leg.

[8] Fatigue Hurdling. **Poor or weak technique is at its most vulnerable when the athlete is fatigued**, so if the previous stages have been effectively developed, the penultimate challenge is to try to make the athlete maintain non dominant hurdling confidence whilst tired. There are many sessions that can achieve this two examples being:

Hurdle turnabouts; With hurdles going up the straight in one lane and down the straight in an adjacent lane; either 3 hurdles on 400h spacing or 5 hurdles on every other sprint hurdle mark [or combination of the two, the athlete performs between 3 and 5 lengths of the straight not necessarily at race tempo, but strong enough to make sighting up of and any adjustment for the latter hurdles difficult as the athletes tire. Aim for minimal late adjustment and the ability to attack into and away from each hurdle.

2-3 sets of split 400H's Run 200m at race pace between 60 - 90 secs recovery and then from pre determined check mark to ensure good approach to hurdle 6 run second 200 over hurdles 6 to 10 or even 11 to the finish, on full spacing .With a good recovery c 20- 30 minutes between sets, this makes for a good race rehearsal session and can mimic change down patterns in the second half of the race.

The final test of this confidence in bi lateral hurdling ability is of course the race itself in which fatigue is only one of the main stresses faced by an athlete. Obviously the competitive nature of the situation can affect intensity of effort in close run situations. It is here that an athlete must have a strong, confident bi-lateral hurdling ability, providing greater adaptability and thus help prevent losing momentum in approaching and clearing the hurdles.

Reference G Winkler Presentation for Royal Bank of Scotland Hurdles Squad March 2001.

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