


# Technical Ability in the Women's 100m Hurdles

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by Roberto Bedini

## ABSTRACT

*Many commentators feel that because of the relatively low height of the hurdles (84cm) the women's 100m hurdles is not as technically demanding as the men's 110m hurdles (hurdle height: 106.7cm) and therefore it is dominated by sprinters rather than athletes with the very specific ability to hurdle. However, analysis of the difference between the personal best 100m flat time and personal best 100m hurdles time of the world's top hurdles performers shows that technical ability can make a significant difference and that there is more to success in the women's event than pure sprinting speed. Therefore, coaches should give the same emphasis to technique in the training of women hurdlers as they do for men hurdlers. The author, a scientist and successful coach, presents statistics illustrating the importance of technical ability in the women's 100m hurdles and then describes the key elements of hurdling technique with the help of photos of the world's top performers. He concludes with practical advice for coaches comprising five sets of training objectives and drills that can be used with both male and female hurdlers.*

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## Introduction

**T**he women's 100m hurdles has been controversial almost since it was introduced in the 1960s and then added to the international championships programme at the European Athletics Championships in 1969. Many commentators feel that because of the relatively low height of the hurdles (84cm) the event is not as technically demanding as the men's 110m hurdles (hurdle height: 1.067m) and therefore it is dominated by sprinters rather than athletes with the very specific ability to hurdle. Modern compound tracks, which are much faster than cinders or even the early tartan tracks, have only emphasised the contribution of sprinting speed.

In the spirit that has driven the introduction of new disciplines for women (hammer throw, pole vault and steeplechase), more than one coach, including me, has proposed raising the hurdle height to 91cm. The aims are to better show the technical ability of true hurdlers and bring the demands closer to those of the men's event.

Of course, sprinting ability is important - MCGILL<sup>1</sup> points out that "poor sprinting mechanics will cause poor hurdling mechanics" - but apart from my position on the correct hurdle height, I believe that even with the 84cm

hurdles, technical ability is critical and that it makes the difference between top women hurdlers. Therefore, coaches should give the same emphasis to technique in the training of women hurdlers as they do for men hurdlers.

*Table 1: Time differential between 100m personal best and 100m hurdles personal best for the top 30 women's 100m hurdlers (Source: www.iaaf.org) and the top four Italians*

Rank	Athlete	Country	100m hurdles	100m	Diff
1	Kedra Harrison	USA	12.20	11.35	0.85
2	Jordanka Donkova	BUL	12.21	11.27	0.94
3	Ginka Zagorcheva	BUL	12.25		
4	Ludmila Engquist	SWE	12.26	11.04	1.22
	Brianna Rollins	USA	12.26		
6	Sally Pearson	AUS	12.28	11.14	1.14
7	Gail Devers	USA	12.33	10.82	1.51
8	Sharika Nelvis	USA	12.34	11.27	1.07
9	Grazyna Rabsztyń	POL	12.36	11.42	0.94
10	Joanna Hayes	USA	12.37	11.41	0.96
	Dawn Harper-Nelson	USA	12.37	11.90	0.47
12	Vera Komisova	URS	12.39	11.26	1.13
	Nataliya Grygoryeva	UKR	12.39		
14	Bettina Jahn	GDR	12.42		
	Anjanette Kirkland	USA	12.42		
16	Lucyna Kalek-Langer	POL	12.43	11.44	0.99
	Michelle Perry	USA	12.43	11.34	1.09
	Lolo Jones	USA	12.43	11.24	1.19
	Queen Harrison	USA	12.43		
20	Gloria Siebert	GDR	12.44		
	Olga Shishigina	KAZ	12.44	11.13	1.31
	Glory Alozie	ESP	12.44	10.90	1.54
	Damu Cherry	USA	12.44	11.53	0.91
24	Cornelia Oschkenat	GDR	12.45		
	Brigitte Foster-Hilton	JAM	12.45	11.17	1.28
	Olena Krasovska	UKR	12.45	11.53	0.92
	Ginnie Crawford	USA	12.45	11.10	1.35
28	Perdita Felicien	CAN	12.46	11.78	0.68
29	Marina Azybina	RUS	12.47		
	Danielle Carruthers	USA	12.47	11.43	1.04
Top 4 Italians					
	Veronica Borsi	ITA	12.76	11.70	1.06
	Marzia Caravelli	ITA	12.85	11.65	1.20
	Carla Tuzzi	ITA	12.97	11.56	1.41
	Micol Cataneo	ITA	12.98	11.61	1.37

In this article I start by presenting a brief statistical analysis of the importance of technical ability in the women's 100m hurdles and then I describe the key elements of hurdling technique with the help of photos of the world's top performers. I conclude with practical advice for coaches comprising five sets of training objectives and drills that can be used with both male and female hurdlers.

## Statistical Analysis

In a previous article<sup>2</sup>, I noted that Gail Devers (USA), currently seventh on the all-time list for the 100m hurdles with 12.33 sec, was a double Olympic champion in the 100m flat and had a best time of 10.82 sec, giving strong evidence to the view that sprinting speed is the deciding factor in the women's hurdles. However, ahead of her on the 100m hurdles all-time list are athletes who did not have her flat sprinting speed but were obviously successful. These include the 1988 Olympic champion Yordanka Donkova (BUL), who ran a then world record of 12.21 sec for the 100m hurdles and had a best flat 100m performance of 11.27 sec. Since then we have an even more striking contra-example in the new world record holder Kendra Harrison (USA), who has a 100m flat

best of just" 11.35 sec. yet has run the hurdles in 12.20 sec. (see Table 1)

The contribution of good technique to performance can be measured in the difference between the athlete's best times for the 100m flat and 100m hurdles. In Table 1 we can see those athletes in the top-10 of the all-time list with significantly small differentials indicating good technical ability – Harrison, 0.85 sec, Donkova, 0.94 sec, Grazyna Rabsztyn (POL), and Joanna Hayes (USA), 0.96 sec – and we can also see that some of the fastest sprinters in the top-26 group had the potential to perhaps go even faster with better technique – Devers, 1.51 sec, Glory Alozie (ESP), 1.54 sec, and Ginnie Crawford (USA), 1.35 sec. On a national level we have the example of Italy, where of the top four all time performers, the slowest in the 100m is the fastest over the 100m hurdles.

Note: The very small differentials of Dawn Harper-Nelson (USA), 0.47 sec, or Perdita Felicien (CAN), 0.68 sec, are not considered more closely here because the available information on their 100m efforts does not indicate to me that either of them concentrated on that event enough to produce a truly representative performance.

Table 2: Time differential between 60m best and 60m hurdles best for selected top 60m hurdlers (Source: [www.iaaf.org](http://www.iaaf.org))

Athlete	Country	60m hurdles	60m	Diff
Susanna Kallur	SWE	7.68	7.24	0.44
Lolo Jones	USA	7.72	7.29	0.43
Sally Pearson	AUS	7.73	7.30	0.43
Gail Devers	USA	7.74	6.95	0.79
Perdita Felicien	CAN	7.75	7.37	0.38
Brianna Rollins	USA	7.76	7.29	0.47
Kendra Harrison	USA	7.77	7.31	0.46
Glory Alozie	ESP	7.83	7.17	0.66
Sharika Nelvis	USA	7.83	7.28	0.55
Joanna Hayes	USA	7.83	7.51	0.32
Ginnie Crawford	USA	7.84	7.21	0.63
Damu Cherry	USA	7.84	7.54	0.30
Danielle Carruthers	USA	7.88	7.26	0.64
Brigitte Foster-Hilton	JAM	7.96	7.32	0.64

If we look at the differentials between the indoor 60m and the 60m hurdles for those athletes from the outdoor top-30 where data is available (Table 2), we can see that even where there are only five barriers, technical ability can be significant: consider the 0.44 sec differential of record-holder Susanna Kallur (SWE) at the top of the list and compare that to the differentials of the faster sprinters Devers, 0.79 sec, Alozie, 0.65 sec, and Ginnie Crawford (USA), 0.63 sec.

The conclusion is that, clearly, there is more to success in the women's sprint hurdles than pure sprinting speed. Technical ability will make the difference between good and better. Therefore training for correct technique and focusing on the movements and postures of the athlete in every hurdle session is essential.

### Technical Description

To evaluate the technical ability of hurdlers, both male and female, the coach must take into consideration the following elements:

- the correct position of the foot and knee of the lead leg at the take-off and driving towards the crossbar,
- the positions of the arms, head and lead leg crossing over the hurdle,
- the positions of the arm and leg at the touchdown and driving forward and re-accelerating,
- the quickness of the strides between the hurdles,
- the running continuity.

In this section we will examine the technical priorities for each of these elements. To do so, we must focus our mind and our sight on the position, sequence and coordination of the movements of the legs and arms knowing that there is a natural coordination of moving body parts.

#### The take-off

At the take-off before each hurdle, the hurdler must lead with a driving knee and a well-flexed lead leg. When the trail leg leaves the ground it must be fully extended and in align-

ment with the head and the trunk, which are less tilted than for women than for the men in the 110m hurdles. The arms must be in a forward position while the foot of the lead leg is already under the knee (Figure 1). The forearm of the lead arm often appears more or less flexed across the body, but it is necessary that it be directed forward (Figure 2). At this point, the body's centre of mass (CM) located in the hips is higher than the hurdle crossbar. When the foot of the trail leg arrives at the hurdle, the CM is already descending and the sole of the foot is facing the ground ahead of the hurdle ready to descend once the calf is over the crossbar.



Figure 1: Dawn Harper-Nelson (USA) shows a very good forward lean. Her take off leg has broken ground contact. Good position of the arms going to the hurdle. The lead leg is well flexed and its foot is under the knee.



Figure 2: Susanna Kallur (SWE) shows a perfect posture of both the arms and, particularly, the hands, which are directed forward. The lead leg is well flexed.

**Crossing the hurdle**

Over the hurdle, the lead leg has already started its downward movement and the trail leg is slightly open. After finishing the drive of the knee of the lead leg at the crossbar, the foot must be slightly open and descending towards the hurdle, thereby maintaining the rhythm of a running stride (Figure 3 and Figure 4). A well-flexed lead leg stretching quickly to the ground will allow the hurdler to touch down

very near the hurdle and behind the CM/hips, thereby shortening the flight time and giving more distance between hurdles to run quickly. According to ROSS<sup>3</sup> it is very important that both arms are directed forward and downward because if the arms are too high over the CM they interrupt the flow of its forward momentum (Figure 5 and Figure 6) A bent knee lead leg and a flexed ankle will enable the hurdler to snap down forcefully off the hurdle.



Figure 3: Here we see that the lead leg of Sally Pearson (AUS) has started its downward thrust with the foot already directed towards the ground.



*Figure 4: Danielle Carruthers (USA) shows a very good posture over the hurdle. Her hands are pointed forward and, importantly, downward shortening the flight time and going to the touchdown quickly.*



*Figure 5: World record holder Kendra Harrison (USA)*



Figure 6: Brigitte Foster-Hylton (JAM) is going to the touchdown and we can see the good posture of her arms and hands and that the knee of her trail leg is driving over the crossbar.

### **Driving away from the hurdle and reaccelerating**

At the touchdown after each hurdle, the lead leg must be perfectly straight, thereby reducing the springing of the ankle and maintaining the CM/hips at the same height while keeping the direction of running straight ahead. When the lead leg is well driven, its foot stretches forward and the trail leg knee stretches outward thereby creating balance. Power and speed can be gained from the trail leg, which is the more important leg to drive away from the hurdle and re-accelerate since it's coming from the back. This posture is achieved by the touchdown behind the CM/hip and having the "trail leg toes" up. The arms are recovered into a "running action" position very similar to a sprint. The hurdler's foot toe upward of the lead leg means that there has been a correct ground contact. Driving off the hurdle the athlete must re-accelerate with a very strong and

short push on the ground. The Figure 7 photo of Annelie Ehrhardt's (GDR) touchdown after the hurdle is, in my opinion, the picture of the perfection for driving forward from the hurdle. Both her arms are in a running action position, the touchdown is behind the CM, the toe of her lead leg is pointing up and the trail leg is moving into a high position.



Figure 7: Annelie Ehrhardt's (GDR). Note the alignment of the lead leg, trunk and head. All these postures give a forward lean position to the hurdler at, across and away from the hurdle.

### **Quickness between the hurdles**

The aim for running between the hurdles is to move as fast as possible. However, like in the men's 110m hurdles, women 100m hurdlers must contain their stride length between hurdles because approaching too near to the next hurdle will compromise the clearance. The very elastic material of modern tracks complicates this phase of the race. Running velocity, therefore, can only be increased through a higher stride frequency and it is essential to develop this ability through appropriate drills.

### Continuity

We need to be clear that technical ability in hurdling does not only concern the technique of take-off, clearance, re-accelerating or the quickness between hurdles. It also includes the continuity in running from the start to the finish of the race. Observing great women hurdlers of the past and present such as Donkova, Ehrhardt, Rabztyń and Sally Pearson (AUS), I have been impressed by their non-stop running, how they maintained their CM/hips at the same height and seemed to accelerate after the fifth or sixth hurdles compared to the others in their races. According to MCFARLANE<sup>4</sup>, hurdling must be considered a continuous four-stride pattern in which the last stride (across the hurdle) is merely longer and more accentuated in its action and at no time do the legs or the arms stop moving. This is particularly true in the 100m hurdles where the lower height of the hurdles compared to the men's event allows the athletes more possibility to keep the CM/hips in a straight horizontal line with little or no vertical deviation crossing the hurdles and shorter flight times.

### Technical Demands and Drills

In this section I will describe five sets of technical demands and key drills that can be used to enhance the ability of both women and men hurdlers.



Figure 8

### Take-off and lead leg movements

We focus first on the correct position of the foot and the knee of the lead leg at the take-off and also on the position of the trail leg and foot. The hurdler must keep his/her arms in a forward position, the foot of the lead leg must be under the knee, which is driven in a very high action together with the movements of the trail leg as it breaks contact from the ground with a very strong plantar flexion at the ankle and powerful push off the track (Figure 8). This action raises the body's CM into parabolic curve over the hurdle. This curve should be as flat as possible while allowing for clearance of the hurdle. We must mind keep in mind that once in flight, the parabolic curve cannot be altered.

The hurdler must then open the foot of the lead leg maintaining the rhythm of a running stride. These actions decrease the moment of inertia about the hip thereby increasing the lead leg's angular velocity. However, if the hurdler kicks the foot of the lead leg and then snaps it down, he/she breaks the sprinting rhythm and increases the moment of inertia while decreasing the angular velocity (Figure 9). This incorrect technical action leads to significant errors at the touchdown and complicates the recovery of optimal stride frequency.



Figure 9





Figure 10



Figure 11



Figure 12

To train technique in this area I have the hurdlers run over one side of the hurdles with a single stride between hurdles in order to learn the lead leg action. Running over one side of the hurdle makes it easier to focus on the technical movements of only one leg at a time. Using several hurdles this drill also makes it an excellent power-development exercise.

The drills are as follows:

- Boys 14-15 years old: Run over 6-7 84cm hurdles set from 3.50 to 3.80m apart, 3-5 repetitions (Figure 10)
- Girls 14-15 years old: Run over 6-7 76cm hurdles set from 3.50 to 3.80m apart, 3-5 repetitions (Note the difference in the target take-off angle for boys (red) and girls (green) shown in Figure 11) in which we can see a girl passing too high over the cross bar
- Boys 16-17 years old: Run over 6-8 91cm hurdles set from 3.80 to 4.00m apart, 3-5 repetitions
- Girls 16-17 years old: Run over 6-8 76cm hurdles set from 3.50 to 3.80m apart, 3-5 repetitions
- Junior men 18-19 years old: Run over 8-10 1.00m hurdles set from 4.00 to 4.20m apart, 5-6 repetitions (Figure 12)
- Junior women 18-19 years old: Run over 8-10 84cm hurdles set from 3.80 to 4.00m apart, 5-6 repetitions
- Advanced men: Run over 8-10 106cm hurdles set from 4.00 to 4.20 m apart, 5-6 repetitions
- Advanced women hurdlers: Run over 8-10 84cm hurdles set from 3.80 to 4.00m apart, 5-6 repetitions

In the same way we can improve the technical abilities of the trail leg (Figure 13 and Figure 14).

All the distances between hurdles can be modified regarding the individual hurdler's ability but respecting the basic necessities (see Figure 8). To determine the appropriate distances between the hurdles I have used this method: before and after the hurdles we stick adhesive tape on the track and measure



Figure 13



Figure 14

the distance from the footprint to the hurdle. This makes it possible to evaluate the distance before and after the hurdle to obtain the best performance.

For advanced hurdlers I set the hurdles at increasing distances (first to second 3.80m, second to third 3.90m, third to fourth 4.00m, fourth to fifth 4.10m, fifth to sixth 4.20m and after the sixth the distance remains at 4.20m).

The hurdler knows that the distance is increasing so attention must be focused on a powerful push off the track to create quickness.

Watching the hurdler perform these drills the coach should focus on the following points:

- at the take-off, the hurdler must lead and drive with high knee lift and the foot of the lead leg is UNDER the knee,
- the arms must be in a forward position,
- the hips must be higher than the hurdle.



Figure 15

Young hurdlers are inclined to arrive too near the hurdle, which forces them to pass too high over the crossbar. The line of the parabolic curve of their CM will then be at its maximum over the hurdle, not before as it should be, thereby increasing the distance of the touchdown from the hurdle at the touchdown. This is one of the first and most important technical errors the coach must remove (Figure 15).

### **Over the hurdle**

Passing over the hurdle crossbar the lead leg appears lifted, flexed and extended while the trunk is leaning forward. The knee of the trail leg is starting its circular movement from the hip, the shoulders are squared, both hands and arms take a forward position, the sole of the lead leg foot, turned outward, is already di-



Figure 16

rected to the ground and the eyes are looking forward to the next hurdle (Figure 16).

If the hurdler carries the arms too high, or, worse, swings the straight trail arm back, it increases the moment of inertia causing a decrease of the angular velocity and an increase of the flight time over the hurdle (Figure 17 and Figure 18). It also causes a twisting of the body that impedes the forward momentum of the first stride after the hurdle clearance (Figure 19).



Figure 17

I use the following drills, run with a three-stride rhythm, for developing technique in this area:

- Boys 14-15 years old: Run over 6-7 84cm hurdles set from 7.50 to 8.00m apart, 2-3 repetitions
- Girls 14-15 years old: Run over 6-7 76cm hurdles set from 7.00 to 7.50m apart, 2-3 repetitions



Figure 18



Figure 19

- Boys 16-17 years old: Run over 6-7 91cm hurdles set from 8.00 to 8.50m apart, 2-3 repetitions
- Girls 16-17 years old: Run over 6-7 76cm hurdles set at 8.00m apart, 2-3 repetitions
- Junior men 18-19 years old: Run over 8-10 100cm hurdles set at 8.50m apart, 2-3 repetitions
- Junior women 18-19 years old: Run over 8-10 84cm hurdles set at 8.00m apart, 2-3 repetitions
- Advanced men: Run over 10 1.00-1.06m hurdles set at 8.80m apart, 2 repetitions
- Advanced women: Run over 10 84cm hurdles set at 8.00 m apart, 2 repetitions

It is very important that young athletes learning to hurdle take into account that the arm movement over the hurdle should be as close to one's sprinting action as possible. The trail arm moves near the hips preparing for the sprint action after the touchdown. I also use runs over hurdles with a single stride between the hurdles:

- Boys 14-15 years old: Run over 6-7 84cm hurdles set from 3.50 to 3.80m apart, 2-3 repetitions
- Girls 14-15 years old: Run over 6-7 76cm hurdles set from 3.50 to 3.80m apart, 2-3 repetitions
- Boys 16-17 years old: Run over 6-7 91cm hurdles set from 3.80 to 4.00m apart, 2 repetitions
- Girls 16-17 years old: Run over 6-7 76cm hurdles set from 3.50 to 3.80m apart, 2-3 repetitions
- Junior men 18-19 years old: Run over 8-10 1.00m hurdles set from 4.00 to 4.20m apart, 2 repetitions (Figure 12)
- Junior women 18-19 years old: Run over 8-10 84cm hurdles set from 3.80 to 4.00m apart, 2-3 repetitions
- Advanced men: Run over 8-10 106cm hurdles set from 4.00 to 4.20m apart, 2 repetitions
- Advanced women hurdlers: Run over 8-10 84cm hurdles set from 3.80 to 4.00m apart, 2 repetitions

As opposed to the first set of drills in the section above covering the take-off and leg movements, in this case the hurdler goes over the middle of hurdle. This exercise combines lead and trail leg actions with the arm and trunk movements. The goal is to give the hurdler command of hurdling with a quick motion. I use different height hurdles going from the low to high so the hurdler will learn to use faster strides between low hurdles and once this is mastered he/she will improve by maintaining the same speed with higher hurdles.

### **To the touchdown**

Among the most important technical demands for hurdlers are to minimise the distance between the hurdle and the touchdown point and to ensure that this point is behind the CM



Figure 20

at the moment of contact with the track. After passing over the hurdle crossbar, the hurdler must bring the lead foot downward while the trail leg is advancing forward in a circular motion from the hip mainly in the horizontal plane. The shoulders are squared and the trunk is tilted forward (Figure 20). On touchdown, the hurdler must immediately return to a normal sprinting stride. The touchdown distance and related biomechanics depend on the take-off distance, so the coach must evaluate each



Figure 21

hurdler and find the optimum for both these distances. The best take-off distance is the one that brings the hurdler's CM to its highest point on the parabolic curve BEFORE THE CROSSBAR. This will shorten the touchdown distance after the hurdle.

We must remember that after the touchdown the trail leg will be the one that creates the acceleration, so it is very important how it is brought through before, over and after the hurdle.



Figure 22

For developing technique in this area I have hurdlers run 3-4 repetitions over 5-6 hurdles set at standard heights and distances between the hurdles. I place 4-6 strips of adhesive tape on the track before and after the hurdles (Figure 21 and Figure 22). This makes it possible to obtain real measurements of the take-off and touchdown points and evaluate the hurdler's effectiveness related to this technical demand. We can also do this drill using two hurdlers racing each other.



Figure 23

With the trail leg knee and foot up, the lead leg is very stretched at touchdown, there should be an active action of the foot and the arms should recover into a running action position very similar to sprinting (Figure 23). The touchdown of the lead leg arrives according to continuous movements of arms and legs. The trail leg is always advancing forward on a horizontal plane. If the lead leg dominates the trail leg's foot loses speed as it moves through and it takes longer for the hurdler to resume the sprinting action.

Note: I think it is impossible to see the touchdown distance accurately by just watching. Therefore, I have always filmed/videoed my hurdlers of all levels and then reviewed the recordings in slow motion.

### **Recovering stride frequency after the hurdle**

When the touchdown takes place close to the hurdle it gives much more space for the hurdler to develop velocity before the next hurdle. After clearing the hurdle, the trunk must be slightly in front of the touchdown point with the arms taking up a sprinting action while the lead leg is very stretched. At the touchdown, the foot action pushing on the track should be active. The trail leg must control the length of the first stride generating an active and quick landing. Many hurdlers, both young and experienced, over-exaggerate the trail leg action and their touchdown arrives ahead the CM, which in turn leads a very long first stride and a loss of velocity (Figure 24).



Figure 24

Therefore, before training with the three-stride rhythm, young hurdlers must master the ability to touch down very near the hurdle. An ideal exercise to focus on this is to make one step over hurdles with the lead leg heel touching the base of the hurdle. The drills I use are:

- Boys 14-15 years old: Walking over 10 84cm hurdles set from 1.20 to 1.50m apart, 3 repetitions
- Girls 14-15 years old: Walking over 10 76cm hurdles set from 1.20 to 1.50m apart, 3 repetitions
- Boys 16-17 years old: Walking over 10 84cm hurdles set from 1.50 to 1.80m apart; 3 repetitions.
- Girls 16-17 years old: Walking over 10 76cm hurdles set from 1.50 to 1.80m apart, 3 repetitions

### **The three-stride rhythm**

The continuity in running and ability to develop velocity in the three strides between the hurdles is the key to become a great hurdler. The best hurdlers run with very low knee lift combined with very low arm carriage. Lifting the knees increases the stride length, which shortens the distance available to develop velocity.

The drills I use to develop the three-stride rhythm are as follows:

- Boys 14-15 years old: Run over 7-8 84cm hurdles set from 7.50 to 7.80m apart, 2 repetitions
- Girls 14-15 years old: Run over 7-8 76cm hurdles set from 7.30 to 7.50m apart, 2 repetitions
- Boys 16-17 years old: Run over 7-8 91cm hurdles set from 8.00 to 8.50m apart, 2 repetitions
- Girls 16-17 years old: Run over 7-8 76cm hurdles set from 7.50 to 8.00m apart, 2 repetitions.
- Junior men 18-19 years old: Run over 7-8 100cm hurdles set from 8.50 to 8.80m apart, 2 repetitions
- Junior women 18-19 years old: Run over 7-8 84cm hurdles set from 7.5 to 8.00m apart, 2 repetitions

- Advanced men: Run over 10 106cm hurdles set at 8.80m apart, 2 repetitions
- Advanced women: Run over 10 84cm hurdles set at 8.00m apart, 2 repetitions

For advanced hurdlers I use a drill in which the distance between hurdles increases. For the men I set 10 hurdles with the following spacing: first to second 8.60m, second to third 8.70m, third to fourth 8.80m, fourth to fifth 8.90 m, hurdles 6 to 10 8.90 m. The hurdlers do one repetition with 100cm hurdles and one repetition with 106cm hurdles.

For the women I set 10 hurdles with the following spacing first to second 7.70m, second to third 7.80m, third to fourth 7.90m, fourth to fifth 8.00m, fifth to sixth 8.30m, hurdles 6 to

10 8.50m. The hurdlers do one repetition with 76cm hurdles and one repetition with 84cm hurdles.

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