

## Coaching the Hurdles

Scott King - Birmingham High School

### Basic Requirements of Hurdlers:

Historically, hurdle events were jumping events, but the old concept of jumping over the hurdles has evolved to sprinting over the barriers. Therefore, a successful hurdler is one who maintains his speed and rhythm between the hurdles. The event requires the athlete to be multi-talented possessing not only strength, speed, and the ability to spring, but also stamina, courage, coordination, flexibility and grace of movement. Consequently, it is one of the most difficult of all the events to master. The type of students to look for when recruiting are sprinters -- for their speed -- and basketball players -- for their leg length.

### Steps in Teaching Hurdlers:

- Hurdle exercises
- Start out on one hurdle, usually a low hurdle
- Determine the lead leg, preferably the left
- Teach the proper steps to the first hurdle (usually eight for the high hurdles)
- Teach the steps inbetween the hurdles (three between the high hurdles)

### Walk-through Drill:

- Place three or four hurdles on the grass, ten yards apart, at the 30-inch height

- Trail Leg: Place lead foot one foot to side and ahead of regulation hurdle. Place trail leg on hurdle at 45 degree angle. Emphasize the pulling back of the big toe. Step through with an upward and forward motion.
- Lead Leg: Place the trail foot to side of the hurdle. Lift the lead leg with bent knee and extend over the hurdle. The lead leg should come down with a "pawing" action.
- Arm Action: The lead arm opposes the lead leg. It should be extending in such a way to square the shoulders to the hurdle. The free arm is on the same side as the lead leg. The elbow remains bent and drives backward on attack to the hurdle and immediately forward as the body passes the hurdle.
- During walk throughs, knee and arm action should be accentuated.
- After getting the hang of the walking drill, the athlete should try it in a jog.

#### Develop three-stride Pattern:

- Place hurdles or cones approximately 8-yards apart (on grass).
- Emphasize no overstride - change hurdle position if athlete is overstriding.
- If athlete is understriding, look for improper trail leg follow-through.
- When practicing for a stride, move the hurdle to a point where the hurdler does not have to reach. As the hurdler gains confidence, begin moving hurdle forward to the correct distance.
- As hurdler becomes comfortable, replace cones for a hurdle. Increase hurdle height as steps become perfected.

#### Evaluating Technique:

To determine what the athlete is doing, the coach has to evaluate him from every angle possible. You will get different perspectives from each position. You should try to look for one thing at a time. If you try to see everything, you will see nothing at all.

- Straight-ahead Position
  1. Does he run in a straight line?
  2. Watch the arm action.
  3. Watch the position of his ~~lead~~ leg over the hurdle.
  4. Watch his landing off the hurdle.
  5. Watch the lead arm.

6. Does he side-step the hurdles?
7. Does he settle before driving up?
8. Does he bring the trailing-leg knee straight through?

- Side Position

1. What is the length of the stride between hurdles?
2. What is the height of the crotch?
3. Check the body lean.
4. When does the lead leg start down?
5. Does he drive up off his toes?
6. Does he settle just before driving up?

Drills:

- hurdle stretches
- sprint drills: power skips, butt kicks, high knees, ankle bounce, back pedal, build-ups.
- stationary hurdle drills: trail leg circles, lead leg punch-ups, hâp swings
- running hurdle drills: trail leg over 1/2 hurdle, lead leg over 1/2 hurdle, over-the-top drills (5 steps).

Start to the first hurdle:

- Lead leg in rear block for 8-step approach (lead leg in front block for 7- or 9-step approach).
- Consistent stride pattern is the key to rapid improvement.
- 8-step stride in the preferred pattern.
- Should be essentially the same as the sprint start.

Differences in the 300-meter hurdles:

- Height of hurdles
  1. Men 36"
  2. Women 30"
- Clearance
  1. More economical than the 100 m/ 110 m hurdles.
  2. Trunk lean is less exaggerated.
  3. The trajectory of the hurdlers flight pattern is lower.
- Lead-leg preference
  1. It is beneficial to be able to alternate lead legs.

2. Left lead leg offers following advantages:
    - a. It allows the athlete to run closer to the inside lane line without risk of being disqualified for trailing a leg outside the hurdle.
    - b. It also gives the hurdler better balance while running the curve.
- Rhythm and stride length
1. Speed to the first hurdle should be slightly slower than flat 400-meter pace.
  2. Beginning hurdlers need to gain a consistent stride pattern.
  3. The last three strides need to be consistent in length, not chopped, and involve an acceleration.
  4. From start to the first hurdle:
    - a. for boys 21-22 strides
    - b. for girls 23-25 strides
  5. Common stride patterns between the hurdles:
    - a. 15-17 for boys
    - b. 17-19 for girls
  6. At the finish, accelerate into last two hurdles.
- Drills
1. Alternate lead leg over odd number of hurdles.
  2. Use left lead leg over 3-5 hurdles on curve.
  3. Run over cones to check stride pattern.

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### Speed Factors in the High Hurdles Events

I have coached Boys' and Girls' Cross Country and Boys' and Girls' Track and Field at a large high school in the Los Angeles area. In all of my years in coaching, I always coached the hurdles. In order to be a successful Track Coach, you need to learn to coach all of the events. In my program, the hurdles was one event that no one ever wanted to coach. Secondly, a successful coach can get their athletes to do what you want them to do. Finally, a successful coach loves his athletes. While strength, balance, technique, rhythm, flexibility and stamina are important, the most important in teaching the hurdles is speed.

#### Basic Requirements of Hurdlers

Historically, hurdle events were jumping events, but the old concept of jumping over the hurdles has evolved to sprinting over the barriers. Therefore, a successful hurdler is one who maintains his speed and rhythm between the hurdles. Speed is necessary for hurdle success. Without speed, high performance hurdling would not be where it is today.

#### Attributes of Top Hurdlers

- Speed.
- Strength.
- Flexibility.
- Rhythm.
- Skill.
- Stamina.
- Courage.
- Grace of movement.

#### The Application of Speed to Hurdling

- You must provide the athlete with a good base (strength, power, flexibility, nutrition, and psychological framework).
- Develop good sprint technique.
- Develop the technique of hurdling, so that the least amount of speed is lost.
- Combine the sprint and hurdling techniques.
- Learn proper starting mechanics.
- Maintain sprint form between hurdles.

#### Areas of Speed Development in Hurdling

- Start technique, reaction time and power.
- Hurdle clearance- take off, layout and landing.
- Running speed between the hurdles.
- Rhythm.
- Finishing sprint.

## Drills to Develop Speed (stress quick movement off ground!!!)

- Power skips.
- Butt kicks.
- High kicks.
- Fast hand/ quick feet.
- Trail leg over  $\frac{1}{2}$  hurdle.
- Lead leg over  $\frac{1}{2}$  hurdle.
- Over-the-top drills (5 steps).
- Fast five step- place 4 hurdles around 1.5 times normal high hurdle distance (depends on level of athlete, could be 2-5 feet less).
- Training on lower hurdle heights.

## Analysis and Motivation

- Touchdown times.

## Start to the First Hurdle

- Lead leg in rear block for 8-step approach (lead leg in front block for a 7 or 9 step approach).
- Consistent stride pattern is the key to rapid improvement.
- 8-step stride is the preferred pattern.
- Should be essentially the same as the sprint start.
- Upright by the 6<sup>th</sup> stride.

## Hurdle #10 to Finish

- Practice accelerating and driving off last hurdle.
- 6 to 7 strides to finish.
- Maintain sprinter's form.
- Lean at tape.

## Summary

Speed factors in the high hurdles is complex, being made up of the following elements: absolute running speed, starting power and efficiency, reaction time, hurdle speed, application of running speed to the 3- stride pattern between the hurdles, speed endurance and rhythm. All of these elements are trainable to enhance the athlete's speed.

# MEN'S 110M HIGH HURDLE

H1	H2	H3	H4	H5	55M	H6	H7	H8	H9	H10	110M
2.13	3.26	4.28	5.25	6.22	6.71	7.20	8.18	9.19	10.22	11.25	12.76
2.14	3.28	4.31	5.29	6.26	6.74	7.24	8.23	9.24	10.28	11.32	12.84
2.16	3.30	4.33	5.32	6.30	6.78	7.28	8.28	9.30	10.34	11.39	12.92
2.17	3.32	4.36	5.35	6.33	6.82	7.33	8.33	9.35	10.40	11.46	13.00
2.18	3.34	4.38	5.38	6.37	6.86	7.37	8.38	9.41	10.47	11.53	13.07
2.20	3.36	4.41	5.41	6.41	6.90	7.42	8.43	9.47	10.53	11.60	13.15
2.21	3.38	4.44	5.45	6.45	6.94	7.46	8.48	9.52	10.59	11.67	13.23
2.22	3.40	4.46	5.48	6.49	6.98	7.51	8.53	9.58	10.66	11.74	13.31
2.24	3.42	4.49	5.51	6.53	7.02	7.55	8.58	9.64	10.72	11.81	13.39
2.25	3.44	4.52	5.55	6.57	7.06	7.60	8.64	9.70	10.79	11.88	13.47
2.26	3.46	4.55	5.58	6.61	7.11	7.64	8.69	9.76	10.85	11.95	13.55
2.28	3.48	4.57	5.61	6.65	7.15	7.69	8.74	9.82	10.92	12.02	13.63
2.29	3.50	4.60	5.65	6.69	7.19	7.73	8.79	9.87	10.98	12.10	13.72
2.30	3.53	4.63	5.68	6.73	7.23	7.78	8.85	9.93	11.05	12.17	13.80
2.32	3.55	4.66	5.72	6.77	7.27	7.83	8.90	9.99	11.11	12.24	13.88
2.33	3.57	4.68	5.75	6.81	7.31	7.88	8.95	10.05	11.18	12.32	13.97
2.35	3.59	4.71	5.78	6.85	7.36	7.92	9.01	10.11	11.25	12.39	14.05
2.36	3.61	4.74	5.82	6.89	7.40	7.97	9.06	10.18	11.32	12.46	14.14
2.37	3.63	4.77	5.85	6.93	7.44	8.02	9.12	10.24	11.38	12.54	14.22
2.39	3.65	4.80	5.89	6.97	7.49	8.07	9.17	10.30	11.45	12.61	14.31
2.40	3.68	4.83	5.93	7.02	7.53	8.12	9.23	10.36	11.52	12.69	14.39
2.42	3.70	4.86	5.96	7.06	7.57	8.16	9.28	10.42	11.59	12.77	14.48
2.43	3.72	4.88	6.00	7.10	7.62	8.21	9.34	10.49	11.66	12.84	14.57
2.45	3.74	4.91	6.03	7.14	7.66	8.26	9.39	10.55	11.73	12.92	14.65
2.46	3.77	4.94	6.07	7.19	7.71	8.31	9.45	10.61	11.80	13.00	14.74
2.48	3.79	4.97	6.11	7.23	7.75	8.36	9.51	10.68	11.87	13.08	14.83
2.49	3.81	5.00	6.14	7.27	7.80	8.41	9.57	10.74	11.95	13.16	14.92
2.51	3.83	5.03	6.18	7.32	7.84	8.46	9.62	10.81	12.02	13.24	15.01
2.52	3.86	5.06	6.22	7.36	7.89	8.52	9.68	10.87	12.09	13.32	15.10
2.54	3.88	5.09	6.25	7.41	7.93	8.57	9.74	10.94	12.16	13.40	15.19
2.55	3.90	5.13	6.29	7.45	7.98	8.62	9.80	11.00	12.24	13.48	15.28
2.57	3.93	5.16	6.33	7.50	8.03	8.67	9.86	11.07	12.31	13.56	15.38
2.58	3.95	5.19	6.37	7.54	8.07	8.72	9.92	11.14	12.38	13.64	15.47
2.60	3.98	5.22	6.41	7.59	8.12	8.77	9.98	11.20	12.46	13.72	15.56
2.61	4.00	5.25	6.45	7.63	8.17	8.83	10.04	11.27	12.53	13.80	15.66
2.63	4.02	5.28	6.48	7.68	8.22	8.88	10.10	11.34	12.61	13.89	15.75
2.65	4.05	5.31	6.52	7.72	8.26	8.93	10.16	11.41	12.69	13.97	15.85
2.66	4.07	5.35	6.56	7.77	8.31	8.99	10.22	11.48	12.76	14.06	15.94
2.68	4.10	5.38	6.60	7.82	8.36	9.04	10.28	11.54	12.84	14.14	16.04
2.69	4.12	5.41	6.64	7.86	8.41	9.10	10.34	11.61	12.92	14.23	16.13
2.71	4.15	5.44	6.68	7.91	8.46	9.15	10.40	11.68	12.99	14.31	16.23
2.73	4.17	5.48	6.72	7.96	8.51	9.21	10.47	11.75	13.07	14.40	16.33
2.74	4.20	5.51	6.76	8.01	8.56	9.26	10.53	11.83	13.15	14.48	16.43
2.76	4.22	5.54	6.80	8.06	8.61	9.32	10.59	11.90	13.23	14.57	16.53
2.78	4.25	5.58	6.84	8.10	8.66	9.37	10.66	11.97	13.31	14.66	16.63
2.79	4.27	5.61	6.89	8.15	8.71	9.43	10.72	12.04	13.39	14.75	16.73
2.81	4.30	5.64	6.93	8.20	8.76	9.49	10.79	12.11	13.47	14.84	16.83
2.83	4.32	5.68	6.97	8.25	8.81	9.54	10.85	12.19	13.55	14.93	16.93
2.84	4.35	5.71	7.01	8.30	8.86	9.60	10.92	12.26	13.63	15.02	17.03
2.86	4.38	5.75	7.05	8.35	8.91	9.66	10.98	12.33	13.72	15.11	17.13

Touchdown Splits

# MEN'S 400M INTERMEDIATE HURDLES

H1	H2	H3	H4	H5	H6	H7	H8	300M	H9	H10	400M
5.78	9.46	13.15	16.93	20.81	24.79	28.87	33.05	34.38	37.33	41.71	46.98
5.80	9.50	13.21	17.01	20.91	24.91	29.01	33.21	34.55	37.51	41.91	47.20
5.82	9.54	13.27	17.09	21.01	25.03	29.15	33.37	34.71	37.69	42.11	47.43
5.84	9.58	13.33	17.17	21.11	25.15	29.29	33.53	34.88	37.88	42.32	47.65
5.86	9.62	13.39	17.25	21.22	25.28	29.44	33.70	35.05	38.06	42.52	47.89
5.88	9.66	13.46	17.34	21.32	25.40	29.58	33.87	35.23	38.25	42.73	48.12
5.90	9.71	13.52	17.42	21.42	25.53	29.73	34.03	35.40	38.44	42.94	48.35
5.92	9.75	13.58	17.51	21.53	25.66	29.88	34.20	35.58	38.63	43.15	48.59
5.94	9.79	13.65	17.59	21.64	25.78	30.03	34.38	35.76	38.82	43.37	48.83
5.96	9.83	13.71	17.68	21.75	25.91	30.18	34.55	35.94	39.02	43.58	49.07
5.99	9.88	13.78	17.77	21.86	26.05	30.33	34.72	36.12	39.21	43.80	49.32
6.01	9.92	13.84	17.85	21.97	26.18	30.49	34.90	36.30	39.41	44.02	49.57
6.03	9.96	13.91	17.94	22.08	26.31	30.65	35.08	36.49	39.61	44.25	49.82
6.05	10.01	13.98	18.03	22.19	26.45	30.80	35.26	36.68	39.82	44.47	50.07
6.07	10.05	14.04	18.13	22.31	26.59	30.96	35.44	36.87	40.02	44.70	50.32
6.09	10.10	14.11	18.22	22.42	26.72	31.13	35.63	37.06	40.23	44.93	50.58
6.12	10.15	14.18	18.31	22.54	26.86	31.29	35.81	37.25	40.44	45.16	50.84
6.14	10.19	14.25	18.40	22.66	27.01	31.45	36.00	37.45	40.65	45.40	51.11
6.16	10.24	14.32	18.50	22.77	27.15	31.62	36.19	37.65	40.86	45.63	51.37
6.18	10.29	14.40	18.60	22.90	27.29	31.79	36.39	37.85	41.08	45.87	51.64
6.21	10.33	14.47	18.69	23.02	27.44	31.96	36.58	38.05	41.30	46.12	51.91
6.23	10.38	14.54	18.79	23.14	27.59	32.13	36.78	38.25	41.52	46.36	52.19
6.25	10.43	14.62	18.89	23.26	27.74	32.31	36.98	38.46	41.74	46.61	52.46
6.28	10.48	14.69	18.99	23.39	27.89	32.48	37.18	38.67	41.97	46.86	52.75
6.30	10.53	14.77	19.09	23.52	28.04	32.66	37.38	38.88	42.20	47.11	53.03
6.32	10.58	14.84	19.20	23.65	28.20	32.84	37.59	39.09	42.43	47.37	53.32
6.35	10.63	14.92	19.30	23.78	28.35	33.02	37.80	39.31	42.66	47.63	53.61
6.37	10.68	15.00	19.40	23.91	28.51	33.21	38.01	39.53	42.90	47.89	53.90
6.40	10.73	15.08	19.51	24.04	28.67	33.40	38.22	39.75	43.14	48.16	54.20
6.42	10.78	15.16	19.62	24.18	28.83	33.58	38.43	39.97	43.38	48.43	54.50
6.45	10.84	15.24	19.73	24.31	29.00	33.77	38.65	40.20	43.63	48.70	54.80
6.47	10.89	15.32	19.84	24.45	29.16	33.97	38.87	40.43	43.87	48.97	55.11
6.50	10.95	15.40	19.95	24.59	29.33	34.16	39.10	40.66	44.12	49.25	55.42
6.52	11.00	15.49	20.06	24.73	29.50	34.36	39.32	40.89	44.38	49.53	55.73
6.55	11.05	15.57	20.18	24.88	29.67	34.56	39.55	41.13	44.63	49.81	56.05
6.57	11.11	15.66	20.29	25.02	29.85	34.76	39.78	41.37	44.89	50.10	56.37
6.60	11.17	15.74	20.41	25.17	30.02	34.97	40.01	41.62	45.15	50.39	56.69
6.62	11.22	15.83	20.53	25.32	30.20	35.18	40.25	41.86	45.42	50.68	57.02
6.65	11.28	15.92	20.65	25.47	30.38	35.39	40.49	42.11	45.69	50.98	57.35
6.68	11.34	16.01	20.77	25.62	30.56	35.60	40.73	42.36	45.96	51.28	57.69
6.70	11.40	16.10	20.89	25.77	30.75	35.81	40.98	42.62	46.24	51.59	58.03
6.73	11.46	16.19	21.01	25.93	30.93	36.03	41.23	42.87	46.51	51.90	58.38
6.76	11.52	16.29	21.14	26.08	31.12	36.25	41.48	43.14	46.80	52.21	58.73
6.78	11.58	16.38	21.27	26.24	31.32	36.48	41.73	43.40	47.08	52.53	59.08
6.81	11.64	16.48	21.39	26.41	31.51	36.70	41.99	43.67	47.37	52.85	59.44
6.84	11.70	16.57	21.53	26.57	31.71	36.93	42.25	43.94	47.67	53.17	59.80
6.87	11.77	16.67	21.66	26.74	31.91	37.17	42.52	44.22	47.96	53.50	60.17
6.90	11.83	16.77	21.79	26.90	32.11	37.40	42.79	44.49	48.26	53.83	60.54
6.92	11.89	16.87	21.93	27.08	32.31	37.64	43.06	44.78	48.57	54.17	60.91
6.95	11.96	16.97	22.06	27.25	32.52	37.88	43.33	45.06	48.88	54.51	61.29
6.98	12.02	17.07	22.20	27.42	32.73	38.13	43.61	45.35	49.19	54.86	61.68
7.01	12.09	17.18	22.34	27.60	32.94	38.37	43.90	45.64	49.50	55.21	62.07

Touchdown Splits



# WOMEN'S 100M HIGH HURDLE

## TOUCHDOWN SPLITS

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H100M
2:30	3:26	4:34	5:32	6:30	7:28	8:24	9:24	10:42	11:50	12:58	
2:39	3:30	4:37	5:36	6:35	7:34	8:33	9:42	10:51	11:60	12:69	
2:40	3:40	4:40	5:40	6:40	7:40	8:40	9:50	10:40	11:70	12:60	
2:41	3:42	4:43	5:44	6:45	7:44	8:47	9:58	10:49	11:80	12:91	
2:42	3:44	4:46	5:48	6:50	7:52	8:54	9:64	10:78	11:90	13:02	
2:43	3:46	4:49	5:52	6:55	7:58	8:61	9:74	10:87	12:00	13:13	
2:44	3:48	4:52	5:56	6:60	7:64	8:68	9:82	10:94	12:10	13:24	
2:45	3:50	4:55	5:60	6:65	7:70	8:75	9:90	11:05	12:20	13:35	
2:46	3:52	4:58	5:64	6:70	7:76	8:82	9:98	11:14	12:30	13:44	
2:47	3:54	4:61	5:68	6:75	7:82	8:87	10:04	11:23	12:40	13:57	
2:48	3:56	4:64	5:72	6:80	7:88	8:94	10:14	11:32	12:50	13:68	
2:49	3:58	4:67	5:76	6:85	7:94	9:03	10:22	11:41	12:60	13:79	
2:50	3:60	4:70	5:80	6:90	8:00	9:10	10:30	11:50	12:70	13:90	
2:51	3:62	4:73	5:84	6:95	8:04	9:17	10:38	11:59	12:80	14:01	
2:52	3:64	4:76	5:88	7:00	8:12	9:24	10:44	11:68	12:90	14:12	
2:53	3:66	4:79	5:92	7:05	8:18	9:31	10:54	11:77	13:00	14:23	
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2:83	4:26	5:69	7:12	8:55	9:98	11:41	12:94	14:47	16:00	17:53	

# WOMEN'S 400M LOW HURDLE

## TOUCHDOWN SPLITS

	H1	H2	H3	H4	H5	H4	H5	H4	H5	H6	H7	H8	H9	H10	400M
6:30	10:70	15:10	19:40	24:10	28:70	33:40	38:20	43:20	47:70	52:00	56:30	60:30	64:30	68:30	72:30
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