

**TRAINING FOR THE 110 METER HURDLES
THE PERSPECTIVE OF AN ELITE ATHLETE**

**John McNichols
Indiana State University
Hurdles Broad Event Chair
USATF Development Committee**

The study of track and field for the coach that wants to learn more about technique and training has changed greatly over the past thirty-five years. In 1973 our tools for study were books, periodicals, 8mm/16mm film, flip cards and early computer analysis. Computer analysis was an extremely cumbersome process of filming with a high speed 16 mm camera. After developing the film, the sports scientist had to do a frame by frame transfer of the film to graph paper. He would then digitize each frame on graph paper, and punch the digitized coordinates on a computer card. He physically delivered the computer cards to a Wang Computer Center, and then the next day picked up the printout of data.

The coach today, using a program like Dartfish, has this information immediately upon downloading the video from a competition or workout session. Information provided the coach the past two decades has greatly increased our understanding of technique and training. Dr. Ralph Mann, who presented early today, has assisted the sprint and hurdle coaches of our elite athletes for the past twenty years with a yearly seminar. During this seminar the coach is shown their athlete during USA Championship or Olympic Trial competition compared to a computer model of the “perfect” technique. Each year the elite coach takes this comparison home and applies it to their workout plans with minute adjustments to assist the elite athlete in making improvements for the next season.

The study of track and field technique has had many contributors over the years. One of the most prolific was Fred Wilt. For many of the coaches that are currently past the fifty year mark, Fred was our primary source of technical information. Although he worked full time as an FBI Agent, Fred found time to do his best to educate us about the latest training methods and technique for our sport. Fred was a highly sought after clinician, the editor of the best technical publication, “Track Technique” and author of many books on track and field. One of his best for sprint and hurdle coaches was How They Train Vol. III: Sprinting and Hurdling (Tafnews, 1973). His How They Train series, which also included books on distance and middle distance training, took us through the individual training of the best athletes of the day. A young Ralph Mann is covered on page 66. The athletes and their coaches provided Fred with their yearly training schedule, including track workouts and strength training. This material was used by many young coaches as a guide for workout plans for the athletes they were training at the time.

To reapply Coach Wilt’s model to today’s best hurdlers our elite 110 meter hurdlers were asked to provide the same basic information that Wilt had requested. The following is the response of two of the top seeds in the 2008 Olympic Trials.

John McNichols

DAVID OLIVER

David Oliver, East High School (Denver, CO), Howard University and Disney World

BEST MARKS:

High School	110 Meter Hurdles (39")	14.24	2000	
University	110 Meter Hurdles (42")	14.04	2001	
		13.88w	2002	
		13.60	2003	
		13.55	2004	
Post-Collegiate	110 Meter Hurdles (42")	13.29	2005	(w/12)
		13.20	2006	(w/7)
		13.14	2007	(w/9)
		12.95	2008	(w/2)

PERSONAL STATISTICS:

Date of Birth	April 24, 1982
Height	6' 2"
Weight	205

WARMUP:

Dynamic warmup. Five minute jog. Ten drills with 30 meter strides in between.
Finish with three accelerations.

WORKOUT SCHEDULE:

OCTOBER-DECEMBER: Grass work. Heavy base work at 300 meters and 400 meters. Lower height hurdle work.

JANUARY-MARCH: Track work. Speed work from flying 30's to 150's.
Hurdle endurance such as back to back 200 meter tags and sixteen hurdle repeats.

APRIL-JUNE: Similar to March track work except faster times and shorter rest times. Hurdle work same as March but more start work and work over ten hurdles. One extra day off per week.

SUMMER SEASON: Maintain. Three base workouts: race model, starts ladder, and 150's.

WEIGHT TRAINING:

Same program for the year with increase in weight. Program consists of hang cleans, snatches, tibia machine, arm pumps, core work, bench press twice a month.

HURDLE DRILL:

Line up sixteen hurdles on women's spacing and height. This helps me with acceleration of my lead leg and speed in between hurdles. I can concentrate solely on technique instead of negotiating the hurdle height.

AUBREY HERRING

Aubrey Herring, Warren Central High School (Indianapolis, IN) and Indiana State University

BEST MARKS:

High School	110 Meter Hurdles (39")	14.02	1996
University	110 Meter Hurdles (42")	13.73	1998
		13.67	1999
		13.47	2000
		13.36w	2001
		13.36	2002
Post-Collegiate	110 Meter Hurdles (42")	13.49	2003
		13.41	2004
		13.62	2005
		13.31	2006
		13.51	2007
		13.30	2008

PERSONAL STATISTICS:

Date of Birth	September 19, 1978
Height	6' 0 "
Weight	190

WARMUP:

- I. Up and Back Drills—Do exercises (10 reps) with 50m build-up between (Progressive Speed):
Prisoner---Squat---Highland Fling---Front Lunge---Side Lunge---Donkey Kick---Thrusts---Wideouts---
Single Leg Squat
- II. Ground Circuits—10 reps of each
 - a) Jane Fonda Complex: Straight Leg Lift---Side Lift---Inside Lift---Lead Leg Lift---Trail Leg Lift
 - b) Sky Diver Complex: Alternate Arm+Leg---Double Arm+Leg---Doyle Hip Lift
 - c) Kneeling Complex: Fire Hydrant---Trail Leg Forward---Trail Leg Backwards---KTCHTH (Knee to Chin to Hamstring)---Ham Reach
 - d) Hip Thrust Complex: Double Leg---Single Leg---Russian Hamstring
- III. Build-Ups (Moderate Speed) 3x50m with a low skip and scoop return
- IV. Dynamic Mobility Circuit—10 of each unless otherwise noted
 - a) Circles Complex: (5 of each) Head---Trunk---Hip
 - b) Track Complex: Iron Cross---Scorpion---Groiners
 - c) Inverted Complex: Bicycle---Horriz. Scissor---Long Scissor---Hurdle Rocker
 - d) Fence Complex: Side to Side Leg Swings---Front to Back Leg Swings---Trail Leg Windmills Forward and Back---Hurdle Seat Change
- V. Build-Up Set (Faster Speed) 3x50m with side slide return-switching directions 1/2 way

John McNichols

TRAINING PHILOSOPHY:

Here (Disney Wide World of Sports Complex with Coach Brooks Johnson) our basic training philosophy is to start with a world record segment of your race and then work your way out extending. For example, we look at the fastest touchdown to the first hurdle, then that becomes our target. We will train to hit that mark or better. Once we are able to duplicate that mark we move on to the next segment. The goal is to execute at least one part of your race as well or better than anyone else. We start with the start/finish as those are the biggest two areas to make gain time in the race. From there we move on to frequency and other parts of the race. The motto of our training group is to: "Do today what will be ordinary tomorrow" At some point in the future someone is going to run a time that is considered extraordinary now. Our task is to compress time so that we can run now what everyone will be running tomorrow. Everyone has to buy into Coach Brooks Johnson's philosophy because the intensity of the training reflects these statements.

WORKOUT SCHEDULE:

OCTOBER-DECEMBER: The focus is on foot strengthening and overall conditioning. We are doing grass field workouts four days a week. Focus is on body positioning, foot strike, quad pushdown, and running all the way through the hip (full extension) We progress to running 300s and 400s for overall fitness and conditioning. A typical fall workout is as follows:

Warm Up /Stretch

Grass Workout = 15 x 300 meter Grass Striders

Cool Down /Stretch

On a track day we will do:

Warm up/Stretch

3x 3x300 with a 100 meter walk recovery

Cool Down/ Stretch

All of these are mixed in with Plyo Days and Recovery Days

JANUARY-MARCH: We focus on pure speed workouts. Our volume and overall fitness level enables us to have good speed workouts at this part of the season. Instead of waiting and trying to force it later in the season and run the risk of injury. We do a lot of hurdling on women's spacing for frequency. We also do a lot of hurdling in the long jump pit to reinforce technique (hurdle top only)

APRIL-JUNE: Coach Johnson calls this the Championship season. Workouts are dictated on the individual athlete based on need and competition type. Training logs are kept and usually we go back to a training cycle where we had success, make minor adjustments and then repeat it.

WEIGHT TRAINING:

Our basic weight training philosophy is to strengthen the muscles which correlate functionally to our event. Specific lifts are done to strengthen core, hip flexors and extensors ankles, calves, and lower back. We also do the Olympic lifts for explosion

BEST HURDLE WORKOUT:

Warm up 200 in sub 22

5x10 Hurdles at 45'

5x 10 Hurdles Race Modeling

Warm Down /Stretch

I would like to thank David Oliver and Aubrey Herring for their contribution to this section of the presentation.

Fred Wilt completed each of his How They Train books with a section on the technique of the event. The following is from my Straightaway Hurdle Clinic Handout.

HURDLE TECHNIQUE

1. Start:
 - a. The straightaway race is very dependent on a great start.
 - b. The sprint start technique should be used. Only adjustment should be in the first step out of the blocks to insure the correct take off point.

2. Approach to hurdle:
 - a. Seven or eight steps from the blocks. Three steps between hurdles.
 - b. Charge hurdle; be aggressive.

3. Take off to hurdle:
 - a. Normally 7' 0" for men and 6' 6" for women in front of hurdle.
 - b. Drive lead knee up as if sprinting up a flight of three foot high steps.
 - c. Lead arm (opposite of lead leg) is driven forward. Bent at elbow. Wrist should not cross the midline of the body.
 - d. Trail arm is bent and the hand is just in front of or beside the hip.
 - e. Shoulders remain level and square to hurdle.
 - f. Eyes are focused through the flight of hurdles. Look under your eyebrows.
 - g. Center of gravity is beyond take off foot.
 - h. Take off is off the ball of the foot.
 - i. Appears to be a forward lean of the upper body.

4. Hurdle Clearance:
 - a. Lower leg of lead leg drives forward and immediately "paws" downward.
 - b. Take off leg becomes trail leg as to leaves the ground. The trail knee is lifted to the side (upper leg parallel to hurdle), through the arm pit to a position in front of the chest (high knee position). At take off, the heel of the trail leg closes to the buttocks during hurdle clearance, then follows through to front high knee position. Toe of trail leg is lifted during hurdle clearance.
 - c. Lead arm, slightly raised to side to allow trail leg through, drives backward as a balance to trail legs forward movement. Arm should remain partially bent at elbow during this movement.
 - d. Trail arm comes forward as trail leg drives through.
 - e. The shoulders remain level.

5. Landing off Hurdle:
 - a. The lead leg toe touches down in pawing motion beyond hurdle (men 4'0" and women 2' 6" to 3' 4").
 - b. The trail leg is now in sprint position.
 - c. The center of gravity quickly passes over lead leg toe as touch down occurs. The hips are forward.
 - d. The body is tall and the center of mass is high.
 - e. The arms are back into slightly exaggerated sprint position.