

Developing Hurdlers at Every Level

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Intent



“Being joyful and positive was the whole objective of our group.....
To create uplifting music was the objective”.

-Maurice White / Earth Wind and Fire

Hurdling is ?



Hurdling is ?



Hurdling is:

- Athletic
- Fast
- Playful
- Rhythmic
- Coordinated
- Explosive
- Bouncy
- Aggressive, and more.....

Hurdling



Hurdling



Train Boys and Girls at the same time?

Boys lanes

Girls lanes

Elite Hurdling Is the Eventual Goal



Choosing Hurdlers

Hurdling is not for tall people

Hurdling is for athletic people

Choosing Hurdlers

Hurdling is not a dumping ground
for sprint rejects

Hurdling is for athletes you recruit
for your 4x1 and 4x4 relays

Choosing Hurdlers

Hurdlers are:

- Focused Aggressive
- Aggressive
- Fast
- Agile (Coordinated)

IF athlete is focused, aggressive, fast and agile **AND** they happen to be tall, then they might be a good hurdler

- Sprinters (4x100 relay)
- Corner backs
- Wide receivers
- Point guards
- Soccer forwards / midfielders

I have a dream: 13 flat every year
Proven concepts work for EVERY hurdler!

- Middle School /Junior High - kills 13 flat
- High School - JV
- High School - Varsity
- College / University
- Sub-Elite / Elite

Important Hurdle training concepts:

- Hurdle and sprint more! Drill less.

Mostly, “drills” are a waste of time

Hurdle and sprint, don’t “drill”

- Speed Development / Sprint training 50-70%
- Hurdle training 30-50%

Important Hurdle training concepts:

- Reduce hurdle height - mostly
- Reduce hurdle spacing – always
- Contrast training – mostly
- Coaching is a visual discipline. Learn to see the event
- You cannot claim to be a sprint coach unless you also know the hurdles. They are the same!

Stated another way:

- Train rhythm and timing most importantly
(if one cannot run fast over low, close hurdles there is zero possibility one will run fast over regulation hurdles)
(Don't sweat race height and race space)
- Hurdle height and hurdle space can increase when rhythm and timing are stable

Great Hurdlers

- Great hurdlers learned to hurdle on small hurdles, set close
- Great hurdlers, including world record holders, continue to train over small hurdles, set close

What works for great hurdlers works for beginning hurdlers

- Low hurdles at reduced spacing are effective for elite hurdlers. So, that strategy works for young hurdlers too
- Train for the future, not just the present
- “Survival hurdling” at race settings stunts aggression & growth. Avoid it!

Hurdling Specifications

What we are going to alter

8 str appr 4p:	13.72m (45')	13.00m	-60cm
8 str appr cr/st:	14.30m (47')	13.60m	-60cm
6 str appr 4:	10.00m	9.40m	-60cm
6 str appr cr/st:	10.60m	10.00m	-60cm
Approach 4p:	13.72m (45')	13.00m	-60cm
Inter-hurdle	9.14m (30')	8.50m	-30cm
Height:	39"	33"	-3"

Note: for start, 60 cm btwn crouch and 4 point

- Developing Hurdlers – **reduce! (+/-)** Elite half

Teaching for the future:

Teach sprinting & hurdling, not survival

- Learn to hurdle first, then introduce real hurdles
- Boys: use of 21", 24", 27", 30" hurdles liberally
- Girls: use of 18", 21", 24", 27" hurdles liberally
- Reduce spacing liberally, as a rule
- Enable 8 step approach training (even if 9 now)
- Enable 3 step inter-hurdle training (even if 4 now)
- Make hurdling fun, rhythmic, and aggressive
- Develop speed. Sprint, run the 4x100 relay, etc

Now that we have that out of the way

We can start hurdling

Start with Hurdle Essential 1

- Teach Hip rotation of trail leg (Wall drill)
“toe out, knee up, thigh through”
This sequence is absolute
- Cue: “OUT, UP, THROUGH”

Wall drill – “Out, Up, Through”



Wall drill



Wall drill



Quickly Move to Hurdle Essential 2

- Hurdle in grass over small hurdles first
- 6 step approach before 8 step approach
- Teach take-off leg awareness / **JUMP** off of takeoff leg as if dunking

Note: **Great hurdlers aggressively jump over hurdles with their takeoff leg**

6 step approach – grass, 24” hurdles



Rhythm Primer

Timing from touchdown to touchdown

- 5 hurdles = 4 units
- 4 units in 4.80 = 1.20 per unit (avg)
 - 1.00" = 13.00 pace
 - 1.05" = 13.50 pace
 - 1.10" = 14.00 pace – good start goal
 - 1.15" = 14.50 pace
 - 1.20" = 15.00 pace

6 step approach – grass, 24” hurdles



What we saw - Set up

Reduced space, 6 stride appr, crouch

- Base

6 str approach to h1: 10.00m (M) / 9.40 (W)

Inter-hur (3 str) : 8.10m (M) / 7.50 (W)

- Developing Hurdlers (+/-) 6 str approach

6 str appr h1: 9.40-9.00m (B)/ 8.80-8.20m (G)

Inter-hur (3 str): 7.10m (B)/ 6.50m (G)

Set up and Objectives:

Reduced space, 6 stride approach

- Trim approach by 60cm units, until right
- Crouch start, athletic stance, push from zero
- Takeoff leg fwd, Push hard for all strides (0-6)
- Execute trail hip rotation: “out, up through”

Help athletes find rhythm.
Watch and adjust. It should look good!

- Useful note for every athlete:

Crouch start (takeoff toe at start line)

is ALWAYS 60cm farther from h1

than four point set (hands at start line)

Example: If crouch start line is 8.80m from h1,
then four point start line is 8.20m from h1
(front toe is in same spot for both)

Using the idea of 60m increments:
Watch and adjust. It should look good!

- Girls (W) 9.40m crouch
10.00m four point set
reduce in 60cm chunks
ex: 8.80m>8.20m>7.60m>etc
- Boys (M) 10.00m crouch
10.60 four point set
reduce in 60cm chunk
ex: 10.00m>9.40m>8.80m>etc

After stabilizing rhythm, move to track

- Teach takeoff leg hurdlers, not lead leg hurdlers
- JUMP off takeoff step.

Takeoff is most important part of hurdling

- Lead leg coaching/ cuing can wait

Good takeoff action cures many problems

After grass basics, Quickly move to track:
6 step approach – 24” hurdles



After grass basics, quickly move to track:
6 step approach, 4 pt, 24"/30" hurdles



Now add 2 strides for 8 stride approach

- Useful estimate:

ADD 3.60m to 6 str for 8 str approach

Adjust as needed

Example:

if 6 str appr = 8.80m

8 str appr = 12.40m (8.80m + 3.60m)

Reduced space, 8 stride appr, crouch

Specs: 13.72m, 9.14m(M) / 13.00m, 8.50m (W)

- Developing Hurdlers – reduce! (+/-)

Appr: 13.72m > 13.10m (B) / 13.00m > 12.40m (G)

Inter-hur: 8.50M > 7.90m (B) / 7.85 > 7.25m (G)

- Elite – reduce, but not as much!

Appr: 14.30m > 13.72m (M) / 13.60m > 13.00m (W)

Inter-hur: 9.14m > 8.50m (M) / 8.50m > 7.85m (W)

Remember the 60cm

Crouch start (takeoff toe at start line)
is ALWAYS 60cm farther from h1
than four point set (hands at start line)

Example: If crouch start line is 13.00m from h1,
then four point start line is 12.40m from h1
(front toe is in same spot for both).

Proper “On Your Mark”:
shin parallel with ground plane



Recommendations

- First Hurdle Placement (developing vs. elite)
Elite = little or no reduction of height
Developing = liberal reduction
- Simultaneous training of low and regulation hurdles (25%-40% of hurdles regulation)
- Simultaneous training = contrast training
2 separate lanes required per gender
Hurdlers take up lanes!

Contrast Training

- Contrast by approach distance
 - 6 step approach versus 8 step approach
 - 8 step approach versus 9 step approach
 - 6 step approach versus 7 step approach (ambidextrous)

Contrast Training continued

- Contrast by hurdle height
 - 33" versus 39" OR 36" versus 39"
 - 18" versus 30" OR 24" versus 30"
 - 30" versus 33" OR 30" versus 33"
- Contrast by inter-hurdle spacing
 - 7.70m versus 8.00m OR 8.00m versus 8.30m
 - 8.00m versus 8.30m OR 8.30m versus 8.60

And more Contrast Training...

- With hurdles and without hurdles
- Hurdling versus sprinting (adj. lanes)
 - Especially good for teaching hurdle acceleration
- Sub-max & max intensities (5 v 3 step btwn)
- Starts with “call” versus no “call”
- Starts solo versus group
- **Imagination is the only limit. Suit the purpose.**

Growth

- As hurdling rhythm, speed and technique are stabilized at a given stage, the coach can artfully increase heights and spaces, always demanding quality sprints and hurdles. Use contrast to stimulate growth, as a rule.
- When performance decreases, reduce hurdle heights and spaces to regain the aggressive speed and rhythm required of the event.

Useful Hurdle exercises

- Exercises should always be taught in context of performance (“drill” has a bad meaning)
- Hip Rotation and Recovery
 - Wall drill (trail leg rotation)
 - Walk through hands
 - Reacceleration step drill
 - Single Hurdle / soft approach
- Inter-Hurdle / Step Frequency Drills
 - Dribble Run
 - Fast Leg drill

Wall Drill 1

toe **OUT**, knee **UP** to armpit, swing **THROUGH**



Wall Drill 2



Reacceleration Step / Trail Leg Recovery



Reacceleration Step



Singe Hurdle / Soft Approach



Single Hurdle / Soft Approach



Dribble Runs



Specific Training Ideas

- Approach
 - 1-2 hurdles establish stable approach
 - 3-6 hurdles establish hur acceleration
- Long Flights – 8, 10, 12h
 - Maintain hurdle rhythm and concentration

Approach Modeling



Approach Modeling



Long Flights



Hurdle Training

15%-40% of training volume

- Teach hurdling mechanics. Stress mechanics
 - Drills
 - Sub-Maximal intensities
 - Maximal intensities
- Theory of Gradual Progression = Stabilize before increasing stimulus
- Be prepared: purchase hurdles

Speed Development / Sprint Training

60% -85% of training volume

- Hurdling is a subset of sprinting, like it or not
- Avoid: “I’m not a sprinter, I’m a hurdler” mentality
- Acceleration
- Max Velocity Sprint Mechanics
- If flat speed is improved, hurdles will improve
- Train athletes for the 4x100 and 200 meters

How to set up your training

Avoid long slow, training

- Hurdling is a speed/power event
- **Train for speed and power, not endurance**
- Hurdling is a subset of sprinting
- Sprinting/Hurdling **are not endurance** events
- Sprinting/Hurdling **require very little aerobic training**

Week 1 (1xhur)

Special Prep (6-8wks prior to 1st meet)

- M - Introduce acceleration: 30,40,50,40,30,20m
3-4 x(2x50m grass) 1',2' / 12 x multi jump / +
- TU - Introduce Max Velocity sprint posture
4-6xVmax drill/ 3 x(2 x 150 grass) 2' rep,4'set
- W - 18 x multi jumps, 18 x multi throws /+
- TH - hur acceleration: 8-10 x 1-2h contrast 33",36"
4 x 5-6h 33",36" / 12 x multi throws
- F - 4-6xVmax drill/ 300(10'), 200(6'),100 /+

Week 2 (2xhur)

Special Prep (5-7 weeks prior to 1st meet)

- M - 2 x (4h,6h,8h) contrast 36", 39" / 2 x 80m flat / 12 x multi jump / +
- TU - Max Velocity sprint posture: 4-6xVmax drill / 5 x 150 segment run 50-50-50 cut down (5')
- W - 18 x multi jumps, 18 x multi throws / +
- TH - hur acceleration: 8-10 x 1-2h contrast 36", 39" / 4 x 5-6h 33", 36" / 12 x multi throws
- F - 4-6xVmax drill / 4 x 200m, 1-2 x 150m (5') / +

Week 1:

Competitive Phase (2xhur)

- M - acceleration: 30,40,50,40,30,20
3-4 x(2x50m grass) 1'rep,2'set/12x multi jump / +
- TU - Max Velocity sprint posture: 4-6xVmax drill/
3 x(2 x 150 grass) 2' rep,4'set
- W - 4-6xVmax drill/ 300(10'), 200(6'),100
12 x multi throws / +
- TH - 12 x multi throws
- F - hur acceleration: 8-10 x 1-2h contrast 36",39"
4 x 5-6h 33",36" / 8-12 x multi jumps
- SA - compete

Week 2:

Competitive Phase (3xhur)

- M - 6h,10h,8h,6h (3" lower ht)/
2 x80m flat/ 12 x multi jump / +
- TU - Max Velocity sprint posture: 4-6xVmax drill/
5 x 150 segment run 50-50-50 cut down (5')
- W - 4-6xVmax drill/ 4 x200m, 1-2 x 150m (5') /
12 x multi throws / +
- TH - 12 x multi throws
- F - hur acceleration: 8-10 x 1-2h contrast 36",39"
4 x 5-6h 36",39"/ 8-12 multi jumps
- SA - compete

100/110m Hur versus 300/400m Hur

Training demands

- High hurdles: 10 hurdle clearance steps out of 51 steps in race (almost 20% of perf.)
- High Hurdle clearance steps are one fifth of the race, and thus are a limiting variable.
- 300m Hurdles : 8 hurdle clearance steps out of 120-135 steps in the race (6% of perf.)
- 400m Hurdles : 10 hurdle clearance steps out of 170-190 men/ 185 – 205 women (6% perf)

100/110m Hur versus 300/400m Hur

Training Conclusion

- Hurdle clearance is 3-4 times more critical as a limiting variable in the high hurdles.
- High hurdlers need to spend more time training hurdle technique (i.e. hurdling more) than 300/400m hurdlers do
- High Hurdlers should train hurdles 25-50%
(sprints 50-75%)
- 300/400m Hurdlers should train hurdles 15-40%
(sprints 60-85%) because hurdle technique is not the limiting variable that 200m speed is.

100/110m Hur versus 300/400m Hur

Training Conclusion

- Train 300/400m hurdlers like 200m sprinters
- Train high hurdlers more specifically (still high hurdlers are sprinters, like it or not).

Example: Gradual Progression

W1 hurdle spacing – 12.25m

• H1	12.25	13.00 m
• H2	20.00(7.75)	21.50m
• H3	27.80(7.80)	30.00m
• H4	35.65(7.85)	38.50m
• H5	43.55(7.90)	47.00m
• H6	51.50(7.95)	55.50m
• H7	59.50(8.00)	64.00m
• H8	67.55(8.05)	72.50m

Example: Gradual Progression

W2 hurdle spacing (+10cm fr 1)

• H1	12.40	13.00m
• H2	20.25(7.85)	21.50m
• H3	28.15(7.90)	30.00m
• H4	36.10(7.95)	38.50m
• H5	44.10(8.00)	47.00m
• H6	52.10(8.00)	55.00m
• H7	60.15(8.05)	64.00m
• H8	68.25(8.10)	72.50m

Example: Gradual Progression

W3 hurdle spacing (+15cm fr 2)

• H1	12.70	13.00m
• H2	20.70(8.00)	21.50m
• H3	28.75(8.05)	30.00m
• H4	36.85(8.10)	38.50m
• H5	45.00(8.15)	47.00m
• H6	53.20(8.20)	55.50m
• H7	61.40(8.20)	64.00m
• H8	69.60(8.20)	72.50m

Example: Gradual Progression

M1 hurdle spacing 40'6"/27'(8.25m)

• H1	40'6" 12.35m	45'	13.72m
• H2	67'6" 20.60m	75'	22.86m
• H3	94'6" 28.85m	105'	32.00m
• H4	121'6" 37.10m	135'	41.14m
• H5	45.35m	165'	50.28m
• H6	53.60m	195'	59.42m
• H7	61.85m	225'	68.56m
• H8	70.10m	255'	77.70m

Example: Gradual Progression

M2 hurdle spacing (12.65/ 8.40)

- H1 41'6" 12.65m 45' 12.65m
- H2 69' 8.40m 75' 21.05m
- H3 96'6"(27'6") 105'
- H4 124'6"(28') 135'
- H5 152'6"(28') 165'
- H6 180'6"(28') 195'
- H7 209' (28'6") 225'
- H8 237'6"(28'6") 255'

Example: Gradual Progression

M3 hurdle spacing $(12.95/8.55)+2'0''$

- H1 42'6" 12.95m 45' 12.95m
- H2 70'6" (8.55m) 75' 21.50m
- H3 98'6" (28') 105'
- H4 127' (28'6") 135'
- H5 155'6" (28'6") 165'
- H6 184' (28'6") 195'
- H7 213' (29') 225'
- H8 242 (29') 255'

Misconceptions

- Do not jump the hurdles
 - “Dunk and dive” into the hurdle
- Develop a quick trail leg
 - Develop a long, high path for the trail knee
 - T.O./Trail knee becomes reacceleration step knee
- Close takeoff to Hur = comfortable
 - Close takeoff = vertical
- Lead takeoff with T.O. foot (punting)
 - Be takeoff leg dunker (eliminate punt) 90% aware
 - Lead thigh blocks short

Hurdle coach requirements:

- Sets up or coordinates set up of hurdles
- Watch their athletes hurdle/ teach & uphold concepts
- Time hurdling efforts (touchdown to touchdown)
- Provide small and regulation hurdles for training
- Use coaching marks (athletic tape) TO and mids
- Have a metric tape at all sessions
- Videotape training periodically
- Tablet / Phone apps afford visual feedback

What great hurdle coaches do

- Study hurdle coaches
 - Gary Winckler Sam Dabbs
 - Malcom Arnold Edrick Floreal
 - Brent McFarlane Mike Holloway
- Watch video / **develop an eye for the event**
 - Dawn Harper
 - Kendra Harrison
 - Sally Pearson
 - Aries Merritt
 - Dayron Robles
 - Liu Xiang

Sally Pearson



Developmental Hurdler



Developmental Hurdler

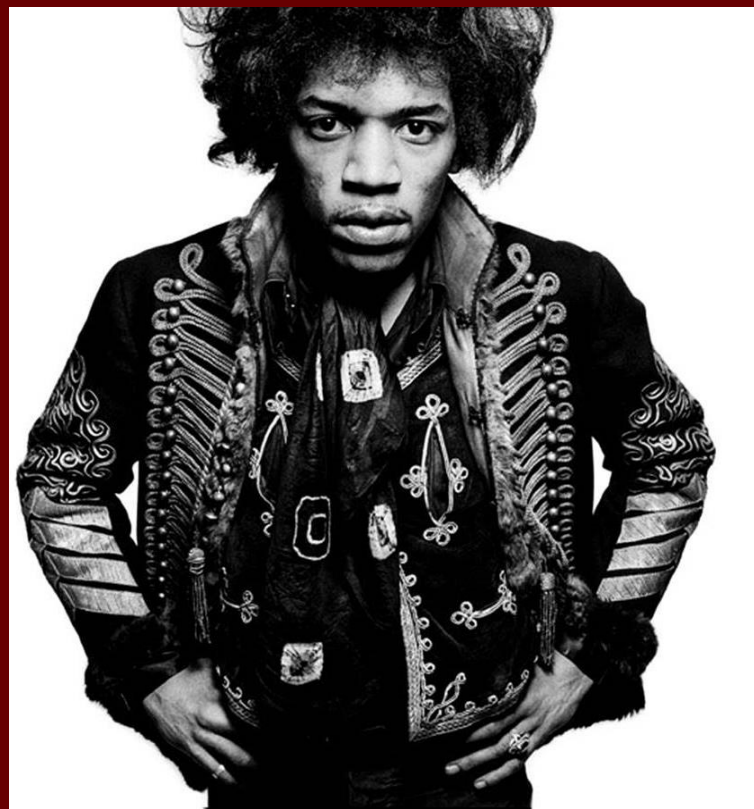




TEXASAGGIE TRACK & FIELD



SEEK Inspiration. She will not come to you. You have to knock on her door



END

Reduce Hurdle Spacing

- Hurdle spacing is almost always reduced for performance modeling
- Exceptions:
 - 5 or 7 stride inter-hurdle training

Aries Merritt

