



1

Sprint Mechanic Principles

- **Speed is simple: Stride length x Stride frequency**
 - Everything we do must be aimed at increasing one or both variables (create efficiency)
 - Length = distance covered, and is not necessarily accomplished by a longer step
 - Hit the ground harder (force into the ground)—travel further down the track
- **Sprint Mechanic Drills**
 - direct correlation to sprinting movement patterns
 - Practice makes Permanent: Let's say "Perfect practice makes perfect"—always monitor & correct
 - Everyday regardless of time, weather, workout, etc.
 - Start slow until perfected, walking or marching: shorten distance
 - Constant feedback
 - Use visual demonstrations (good & bad)
 - Simple/applicable verbal cues
 - Drills must be completed in correct order...
 - General to specific- proper learning progression for the body
 - Slow to fast- still in process of warming up


2

TEACH Great Sprinting Technique

- Posture first!
 - Lean from feet, tight core
- Angle of Hips (water bucket)
- Cue knee, toe, heel up together
- Position to attack the ground from above
- "Be intentional"
- A few drills great vs lots of drills average
- Extension reflex (Frans Bosch)
 - Hot coals or stumble forward, quick reflexes or reactions from both legs
- Monitor ALL Drills!
- *Mechanics are only part of the equation
 - Great mechanics, but don't go anywhere.....force issue/strength issue

3

Optimal Sprint Position



- How do we get in position to:
 - Get everything out of the stride
 - Apply a force to the ground
 - Be stiff at contact
 - Through the knee & hip
 - Reactive Strength
 - Timing = body position @ ground contact
 - Swing leg
 - Heel recovery position (tight heel)
 - knee even/behind

4

Optimal Sprint Position

THE MODEL**THE GOOD****THE BAD****THE UGLY**



5

Optimal Sprint Position

2024**2025**



6

EDD Sprint Drills

- Dribble Series
- A Switch Series
- Timing Drills
- Straight Leg Scissors
- Fast Leg (usually on speed days)



7

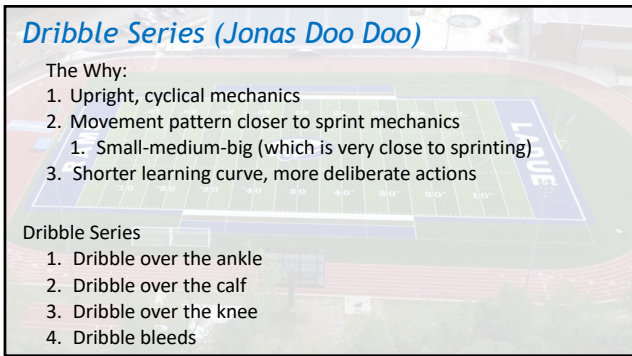
Dribble Series (Jonas Doo Doo)

The Why:

1. Upright, cyclical mechanics
2. Movement pattern closer to sprint mechanics
 1. Small-medium-big (which is very close to sprinting)
3. Shorter learning curve, more deliberate actions

Dribble Series

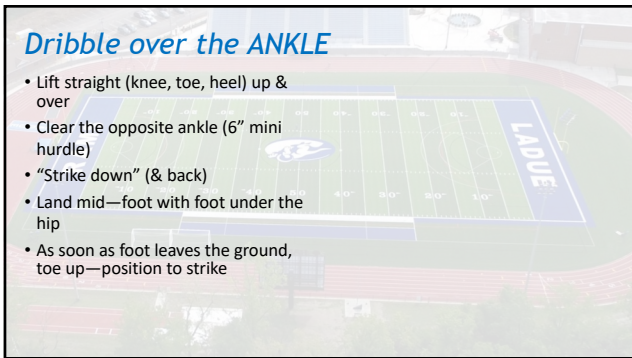
1. Dribble over the ankle
2. Dribble over the calf
3. Dribble over the knee
4. Dribble bleeds



8

Dribble over the ANKLE

- Lift straight (knee, toe, heel) up & over
- Clear the opposite ankle (6" mini hurdle)
- "Strike down" (& back)
- Land mid—foot with foot under the hip
- As soon as foot leaves the ground, toe up—position to strike



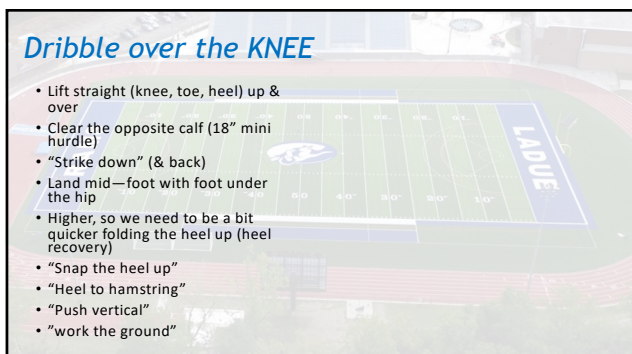
9



Dribble over the CALF

- Lift straight (knee, toe, heel) up & over
- Clear the opposite calf (12" mini hurdle)
- "Strike down" (& back)
- Land mid—foot with foot under the hip
- Higher, so we need to be a bit quicker folding the heel up (heel recovery)

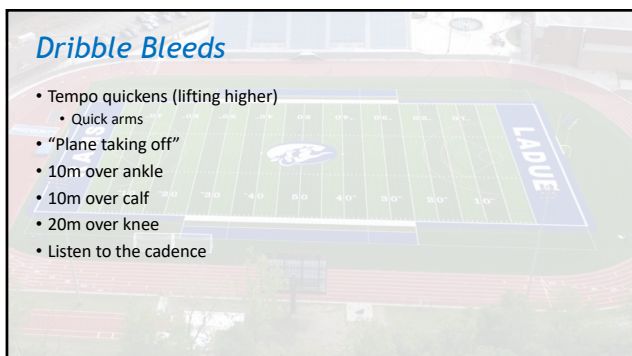
10



Dribble over the KNEE

- Lift straight (knee, toe, heel) up & over
- Clear the opposite calf (18" mini hurdle)
- "Strike down" (& back)
- Land mid—foot with foot under the hip
- Higher, so we need to be a bit quicker folding the heel up (heel recovery)
- "Snap the heel up"
- "Heel to hamstring"
- "Push vertical"
- "work the ground"

11



Dribble Bleeds

- Tempo quickens (lifting higher)
 - Quick arms
- "Plane taking off"
- 10m over ankle
- 10m over calf
- 20m over knee
- Listen to the cadence

12

A-SWITCH

- Switch the legs in the air
 - Not waiting for one foot to hit the ground before the next moves
- “Stretch the knee”
- “Snap the heel”
- In Place
- Single Switch
- 3 switches

13

Timing Drills

- Extension reflex (Frans Bosch)
 - Hot coals or stumble forward, quick reflexes or reactions from both legs
- Attack the ground from above
- “Stretch the knee”
- “Snap the heel”

14

WICKETS

- Uses
 - Self corrective running drill
 - Help with timing
 - Think Vertical drill
- Spacing
 - Trial and error 4’-6’
 - So many suggestions out there
- Cues
 - Stay tall
 - Snap the heel to hamstring
 - Stretch the knee
 - Step down over the hurdle

15

STRAIGHT LEG SCISSORS/BOUNDS

- Great drill to strengthen & stiffen hamstring
- Prepare them hamstring for top end speed work
- Variations
 - "Tempo"
 - "Quickness"
 - "distance"
 - Combos
 - What does each athlete need?

16

FAST LEG VARIATIONS

- Full leg cycle drill
- "Snap heel up" & "Step Over"
- Foot lands under the hip

STATIONARY

- Hand @ hamstring to feel the heel hit

MOVING

- Easy tempo, fast cycle
- Single leg, alternate leg variations

17

BLOCK STARTS

Drive Phase: Shin Angle

- Shin angle determines drive & power output versus running bent over
 - Straighter shin = less drive we actually have
- Be in a position to push
 - Everything relating to positioning blocks, position in the blocks, and initial explosion out of blocks is aimed at getting in the best position to push.



18

Drive Phase: Shin Angle

- Hard as hell to master & replicate!
- ALL DRILLS CUE:
 - Posture: tight core, hips forward, straight line through body
 - Low feet, knee to chest, foot under hips
- DRILLS
 - Drive Step Wall drill
 - Clean the Track (1 step)
 - Sweeper Drill
 - Push drills: sled, hurdle, trash can, steps
 - Resistance Drills: sleds, cords

19

Wall Drill

- LOOK FOR
- 1. Good posture: strait line head to heel
- 2. Heel away from butt
- 3. Knee drive to original spot

20

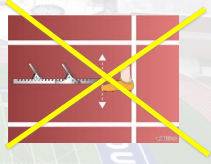

SWEEPER DRILL

- LOOK FOR...
- 1. Foot low, heel away from the butt
- 2. Foot lands under the hip
- 3. Separate the hands, snap them back

21

Setting the Blocks

- **Establish a front leg**
 - Push Test, name in sand test, lay-up
- **Setting up the pedals**
 - Don't worry about the top of the set
 - 2 (shoes) to front pedal, 3 (shoes) to back pedal
- **Use shoe marks to establish consistency**
 - Front knee an inch behind start line





22

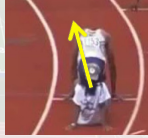
Angle on the turn

Not drastic, gradual line down to the inside of lane
Left hand is slightly off the line

Not a great angle



More ideal angle





- **Entering the blocks**
 - "load the legs" back leg in first
 - Coil the legs like a spring, pressure on the pedals

23

"Mark" Position

- Thumbs under the shoulders
- Arches in hands
- Check for knee clearance
- Eyes down (start line)
- **RELAXED!!!** Repeat a single cue
- "Separate the hands" "Explode"
- "Violent"
- Lean or no lean?

24

Set Position

- Thumbs under the shoulders
- Arches in hands
- Check for knee clearance
- Eyes down (start line)
- RELAXED!!! Repeat a single cue
- “Separate the hands” “Explode” “Violent”
- Lean or no lean?



25

GUN!- Initial Explosion

- Heavyweight fight: Ali vs Tyson: apply a force
- 1. Throw big punches w/ knees & arms
- 2. “Sweep the feet”



26

“Separate the hands”

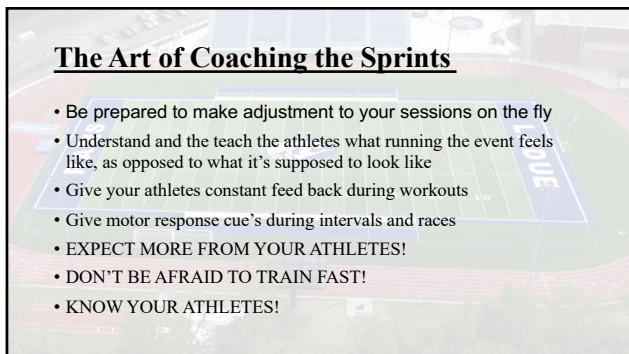
“show the starter your arm pit”
 DRILL: arms only starts



27



28



29
