400m TRAINING
Iowa Track & Field Coaching Clinic
John Raffensperger

INTRODUCTION
• Background and Philosophy
• Role of High School Coach
• 400m Runners: The Heart of Your Team

400m Warm-Up
• Warm-up Routine
• Warm-up Workout
  • Sets of 10–20–40 From 2 pt Walk Back Rest
  • Arms & Hands Low – Knees in Front
  • Stay Tall
OFF Season for HS Athletes

PLYOMETRICS

Plyometric Routine

• WARM-UP
  – High Knee Running
  – Butt Kick Running
  – High Knee Skipping
  – One Leg Easy Hopping

Plyometric Routine (cont.)

• HOPPING & BOUNDING DRILLS
  – Two-Legged Hopping – Knees Straight for Height
  – Two-Legged Hopping – Knees to Chest for Height
  – Two-Legged Hopping - Heels to Butt for Height
  – One-Legged Hopping – Knees Straight for Height
  – Alternate Bounding – Knees Straight (Goose Step)
  – Alternate Bounding – Height & Distance (FTD)
  – Two-Legged Squat Jumps – Distance
  – Czar Jumps – Height
  – One-Legged Hopping Speed x 2
**Medicine Ball Examples**

- **THROWS**
  - 2 Hand Overhead Back
  - 8 x Underhand Vertical – Catch Own
  - 8x1 Hop Overhead Back - Good Bend with Knees
  - 2-Hand Chest with Hop
  - 8 x Slams
  - Step / Lunge Chest Pass – Alternate Lead Leg
  - 2-Hand Overhead Bounce at Wall
  - Others

**Sled Pull Examples**

- Usually 2 x 25 m. Followed by 3 x 30 w/o Sled
  - From 3 pt. Start
  - 2 x Sled and Repeat
  - We Use 15-25 lb. Plates or No Plates for Some
    - Order through Power Max Co. / Check with Vendors at Clinic

**Wicket Examples**

- Full Speed over 10-15 Wickets
- 2-Leg Hops x 2
- Sideway Hops – Lead with Each Leg x 2 Times
- 1-Leg Hops x 2

**Hurdle Hops**

- 8 Hurdles 6'-8' Apart, Set at LH Height
  - (2-Leg Hops & 1-Leg – Alternate Legs
  - Set of 6 – 2 min. Rest Between
Early Season Focus

• Speed Development
• Max Strength Development
• Learn Tempo

Early Season (cont.)

• Accelerations
  — 6 - 8 x 30 m 3 pt. / 4 pt.
  — 6 x Flying 20’s (20-40 m Build in Then Blast 20 m)
  — 4 x 110 (Again Build Up)
  — 4 – 5 x 150 Med – Fast – Faster

• Speed Workouts
  — 200 + 100 + 200  4-5 sets  1 min. Rest
  — 5 min. Between Sets
  — Good Endurance Also

Early Season (cont.)

• More Speed Workouts
  — 6 x 150  3 min. Rest
  — 8 x 50 – 80 Pick Ups
  — 6 – 8 x 30 Full Speed. Time These. Full Rest
  — 4 x 50 m. from 3 or 4 pt. Top Effort  (4 Sets)
  — 5 min. Rest Between Sets

• Strength Endurance
  — 100-200 m. Hills if You Have Them
    ( May have to go off School Grounds)
  — Stadium Steps if Available
Mid Season Focus
Speed Endurance
Technique Training
• Tempo Endurance (Aerobic workout)
  – 8 x 200  2 - 3 min. Rest
  – 6 x 300  2 – 3 min. Rest
  – 50-100-150-200-250-300 (Walk Same for Rest)
  Good to Learn Rhythm – More Quantity not Quality
  – 1 x 500-400-300-200 Ladder  8 min. Rest Between
  – Finish with 2 x 150 with Good Rest
  – Med Ball Work After

Mid Season (cont.)
• Speed Endurance
  – 6 x 150  Give Good Full Recovery
  – 5 x 200  Emphasis on Quality
  – 4 x 300
• Technique
  – Concentrate on Speed
  – Run Tall  (Arms Down & Open)
  – Speed Development #1 Quality over Quantity

Late Season Focus
Longer Speed Endurance
Quality Sprinting
Race Pace
• Endurance Examples
  – 200/200  1 min. Rest Between Reps - Repeat
  – 5 min. Rest Between Sets  (Total 800 meters)
  – 300/100   Walk 100 Between 300 & 100 (Total 400 m.)
  – Emphasis on Relaxation & Technique
  5 x 250 Fast  80-90% 6-8 min. Rest
  4 x 300 Fast  80-90% 8 min. Rest
Late Season (cont.)

- Race Pace Simulation
  - Workout \ 2 Sets (2x200) at 80-90% (Example: if Goal 48.5)
  - /200's Should be 25.5-25.5 with 1 min. Rest – 5-8 min. Rest Between Set

- Pace Workout Examples
  - 4 Sets 3x100 @ 14-15 sec. – 90 sec. Rest – 3 min. Between
  - 4 Sets 1 + 1 + 1 @ 15-17 sec. – 1 min. Rest
    Straight – Curve – Straight – 3 min. Between Sets

Good Workouts for Day After Short Sprint Full Speed Workout

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Late Season (cont.)

To Determine Pace
Good HS Runner should Shoot for First 200 of 400 to be 2 sec. slower than 200 PR.
A 22.5 Guy Should be About 24.5
Girls at 27.5 Should Shoot for 29.5 or 30.0
Don’t be afraid to peak too early. Especially true for Iowa HS with the 13-14 week season.

Try to stay with a general hard day, easy day (rest) sequence.

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Stride Length, Stride Rate

We all learned at one time or another that two major ways to increase speed is to increase Stride Length or Stride Rate.

- The more force you apply to the ground the longer your stride length. This is where increasing total body strength becomes even more important with your lifting, med ball work and endurance workouts.
Stride Length, Stride Rate (cont.)

- Stride Rate is best improved with Drills, Plyometrics, and Sprinting with emphasis on Proper Technique.
  - Applying Force to Ground Creates Speed
  - Stride Frequency Creates Speed
  - The More Force Applied, Stride Length Increases

Preparing for Competitive Season

Do Some Specific Curve Running

- Blocks 3 – 4 x 50 m.
- Fast First 50 m. (Sets up the Rest of the Race.)
- 3 x Fly 120 on Curve
- 4 x 200 Fast Jog 100 Walk-100 Interval (Race Pace)
- 2x(4x100 1 min.) 8 min. Between Sets

In Season Lifting

- 4 Basic Lifts
  - Box Squat
  - Power Clean
  - Bench Press
  - Dead Lift
- 4 Week Cycle
  - 1st Week – 3x3 sets at about 80% of their max
  - 2nd Week – 5x5 sets
  - 3rd Week – 5-4-3-2-1 with increasing weight each set
  - 4th Week – 6 – 8 – 10 or more with increasing weight
Running 4 x 4

- **Order** – Everyone has some different ideas of where to place personnel.
- **Lead Off** – The lead off needs to be a tough competitor and someone who is familiar with running in lanes all the way.
- **2nd Leg** – The second leg must be a fighter who runs the curve well and can get through the 3 turn stagger in good shape so they can make the pass to #3 w/o having to go any further out than lane 3 make a pass.

Running 4 x 4 (cont.)

- **3rd leg** – Good strong competitor who if needed can make up any deficit in order to give the anchor a clean shot at the baton and a chance to win.
- **Anchor** – Obviously this should be your fastest and best competitor and finisher.
- **Race Strategy** – ATTACK THE RACE
  
  Don’t rely on a kick. The first 50 m is very important. Sprint hard the first 50 m and you can either stretch your lead or cut down a deficit if behind.

Running 4 x 4 (cont.)

All Runners:

They need to relax the upper body but maintain speed on the backstretch. At the 200m mark they need to make a determined effort to increase the arm action & lift the knees. It should be a controlled pick up (mentally).

The final 100 meters they’ve got to stay relaxed even though they are fatigued. That’s where thinking of the proper running technique and good form that you’ve taught comes into play.

Don’t struggle & lose form. Keep good arm action.
Week #3
(email: jsraff63@gmail.com)

**M**
1 x 500 @ 1:27 – 1:35
2 x 400 @ .68 - .74  2 min. rest
3 x 200 @ .32 - .35

**T**
6 x 100 @ % speed – walk interval
3 x 200 @ % speed – walk interval
baton trains for 3 laps (3-4 to a group)
6 x flying 50s – heavy lifting day

**W**
Easy 300s – walk 200 try for 6-8 – untimed

(Plyometrics)

**Th**
3 x 300 – 100 combos .45 – .49 walk 100 then full speed 100

**F**
8 x 150 @ :21.5  2 min. rest

Work on specialties (starts, LJ, HJ, exchanges)

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Week #7 first week of April

**M**
3 x 300 @ .52 or below – 2 m.  5 m. between 300 and 200s
2 x 200 @ .31 or below – 1 ½ m.  3 m. between 200 and 500
1 x 500 @ best effort
10 – 15 strides up gradual hill

**T**
Exchanges after warm up
6 x 100 m sprints
4 x 60 m sprints  Take 3 min. rest between each repetition (plyometrics)

**W**
3 x 300 – 100 combos (.45 - .49, 100 under :15)  Lifting day

**Th**
10 x 150 @ 20.5 – :22.5  2 sets of 5  5 min. between sets
Long cool down and 4 x 4 exchanges

**F**
Ladder day 3 x 300 (2 m.) 200 (2 m.) 100 (:90)

**S**
If a meet on Friday – flip flop F & S workouts

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Week #11 week after Drake

**M**
3 x 300 @ :39 - :42  1 x 500 @ 1:15 – 1:18  (4 m. rest)

**T**
4 x 100 – 150 @ :12.5 - :19.1  (2 m. rest)  Lift :50.5

**W**
5 x 300 @ :41.5 (2-3 m. rest) / workout

**Th**
8 x 150 @ :20.2 (1-2 m. rest)  Light lift /

**F**
Meet