

400 m Training

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Goals for this talk

- Reinforce what you currently do
- Give some possibilities that you might want to try
- Encourage you to make a Seasonal Plan
- Present in a simplified manor

Acknowledgements: I have learned/stolen from the best!
There is no way I can acknowledge everyone but some are
special to me.



Jack Sands

Marc Mangiacotti

Boo Shexnayder

Clyde Hart

Vince Anderson

Tom Tellez

Ken Helberg

Todd Lane

Jim Martin

Dave Halliday

Rollie Eckman

Devlyn Lovell

All the Athletes I've Coached

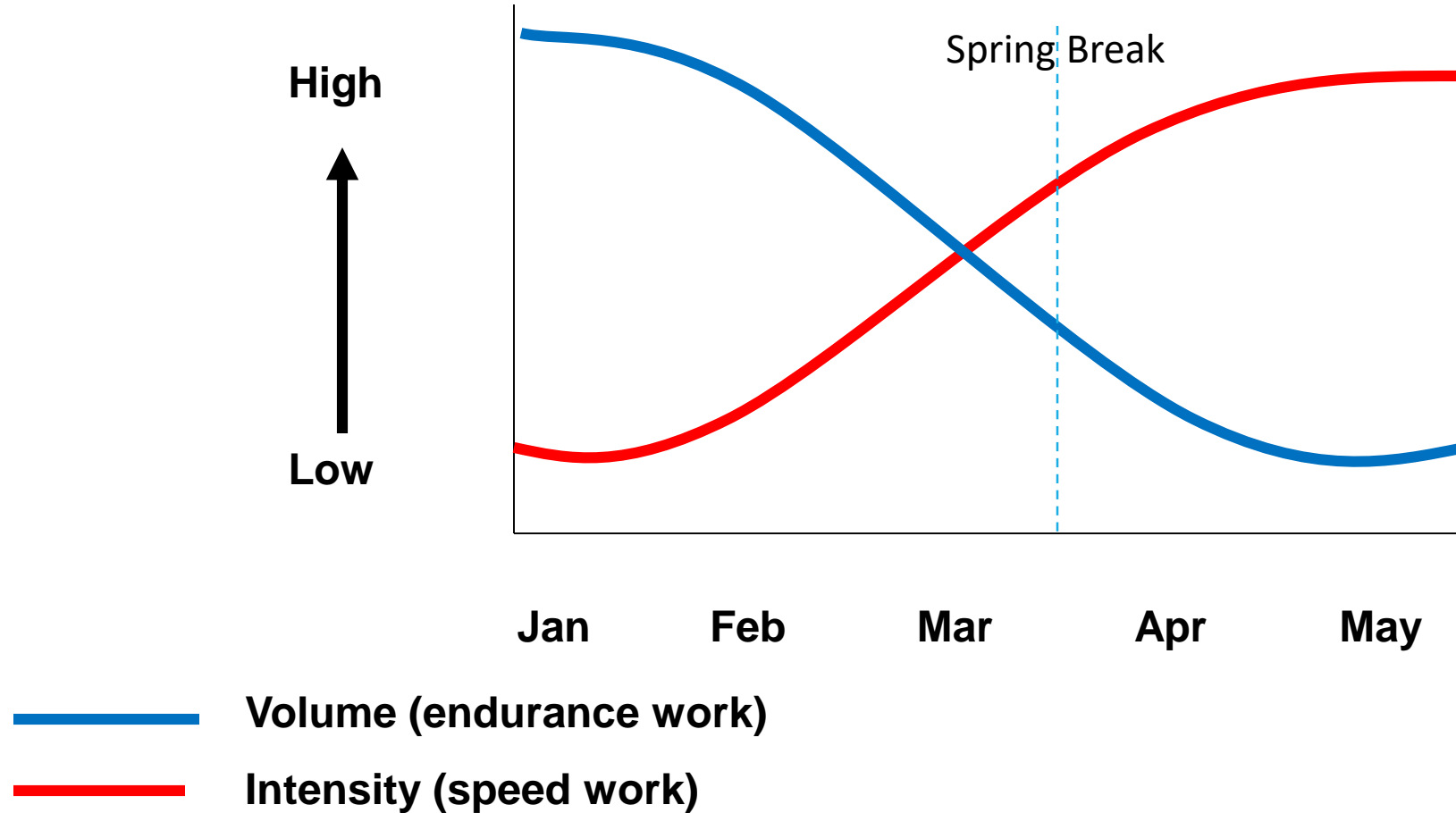
Info: 34 years at Wheaton North (26 years as Head Coach)



-
- Western Suburbs of Chicago
 - 2100 students
 - 120-140 boys out every year
 - P.R. Goal Oriented (will take a PR over a win EVERYDAY)
 - 2 State Trophies, 15 Conference Titles, 6 Sectional Titles
 - 11 Individual State Champions, Many State Placers
 - ITCCCA Hall of Fame 2008 (2x Coach of the Year)
 - USTFCCCA Board of Directors (2013-15)
 - Executive Chair National Senate of High School Track Coaches Associations (2011-2016)

Prior to 2009

Quantity to Quality Training



Changed Training Program 2009



Top 10 List 400 m

1) 48.0	1972
2) 48.29	2016
3) 48.4	1997
4) 48.98	2014
5) 49.12	2009
6) 49.1	1969
7) 49.1	1999
8) 49.34	2011
9) 49.45	2012
10) 49.6	1978

Top 10 List 4 x 400

1) 3:18.88	2009
2) 3:19.11	2012
3) 3:19.1	1972
4) 3:19.69	2016
5) 3:19.87	2014
6) 3:20.11	2013
7) 3:21.07	2011
8) 3:21.1	2008
9) 3:21.8	1978
10) 3:22.68	2004



Philosophy

- Sprinters want to run fast, so **DON'T** make them run slow (no distance runs!!!)
- Break your athletes up between short and long sprinters (train them at different distances)
- If the athlete cannot continue the workout with the same effort as the previous run...then, they are done for the day!!
- Rest is as important as work....No school, no practice (active rest)
- Train thru **MOST** of your meets...Pick out the 2-3 meets you want to highlight and train thru the rest.



400 m training

Ground Force Application

“Force applied at ground contact is most important determinant of running speed!”
Michael Young

Importance of Posture

“The First most important aspect of speed is Posture!” Tom Tellez

Stride Frequency vs. Stride Length

Stride Frequency Increases as Ground Force Application Increases!

Velocity = Stride Frequency X Stride Length Basic Physics



400 m time predict

Take 200m PR and add 1.5 seconds. This will be their 200 m split

Take the 200m split and add 2 seconds to get final time

Ex1) 200 m PR is 22.5 seconds

200m split = $22.5 + 1.5 = 24$ seconds

final 200 m = $24 + 2 = 26$ seconds

50 seconds

Ex2) 200 m PR is 27 seconds

200 m split = $27 + 1.5 = 28.5$ seconds

final 200 m = $28.5 + 2 = 30.5$ seconds

59 seconds



Training Terminology

- Acceleration
- Max Velocity
- Speed Endurance (Short & Long)
- Tempo Endurance (Extensive & Intensive)
- Special Endurance (I & II)



Acceleration

- Done at 100%
- Run lengths 10-30 m (total volume 180-360 m)
- Recovery 2-6 minutes
- Examples
 - Blocks
 - Acceleration Drill (wickets/cones)
 - Short Hills
 - 4 x 4 x 30 m (2-3 min rest...5 min between sets)



Max Velocity

- Done at 100%
- Run lengths 40-80 m (total volume 120-450 m)
- Recovery 2-6 minutes
- Examples
 - Flyers (10,20, 30 m)
 - In and Outs
 - Max Velocity Drill (wickets/cones)
 - Relay Exchanges



Short Speed Endurance

- Done at 90-100%
- Run lengths 60-80 m (total volume 400-1000 m)
- Recovery 1-8 minutes
- Examples
 - 4x4x60 m at 90% w/1-2 min rest, 6-8 min rest between sets
 - 6 x 80 m with 8 min rest



Long Speed Endurance

- Done at 90-100% (Lactate Day)
- Run lengths 300-500 m (total volume 1000-1600 m)
- Recovery 8-10 minutes
- Examples
 - 2 x 500 m, 2 x 200 m
 - Broken Intervals 3 x 300 m, 30 sec rest, 100 m
 - Event Simulation 3-4 x 300 m (50, 150, 100)



Long Speed Endurance Days

- Want Lactic Acid built up in muscles
- Athletes should feel heavy legs, sore butt,...
- Athletes need to work thru the discomfort
- One of the most important aspects of 400 m training



Extensive Tempo

- Done at 75%
- Run lengths larger than 100m (total volume 1200-3000 m)
- Recovery 1-3 minutes
- Examples
 - 6-10 x 200m (2-3 min rest)
 - 2-5 x Broken 600 m (200, 200, 200)(30 sec rest/break)
run at (70%, 50%, 70%)
 - 4-8 x 300m (3 min rest)



Intensive Tempo

- Done at 85%
- Run lengths larger than 80m (total volume 800-2000 m)
- Recovery 2-6 minutes
- Examples
 - 6-10 x 150m (2-4 min rest)
 - 4-5 x 250m (2-3 min rest)
 - 4 x 300m (4 min rest)
 - 100, 200, 300, 400, 300, 200, 100 (50 m walk rest)



Tempo Days

- Good days to concentrate on good sprinting form
- We run with batons on these days (start in left hand, and switch to right hand)



Special Endurance I

- Done at 95%
- Run lengths 120-300m (total volume 300-1000 m)
- Recovery 8 or more minutes (full recovery)
- Examples
 - 2 x 300m
 - 500m, 300m, 150m
 - 350m, 250m, 150m



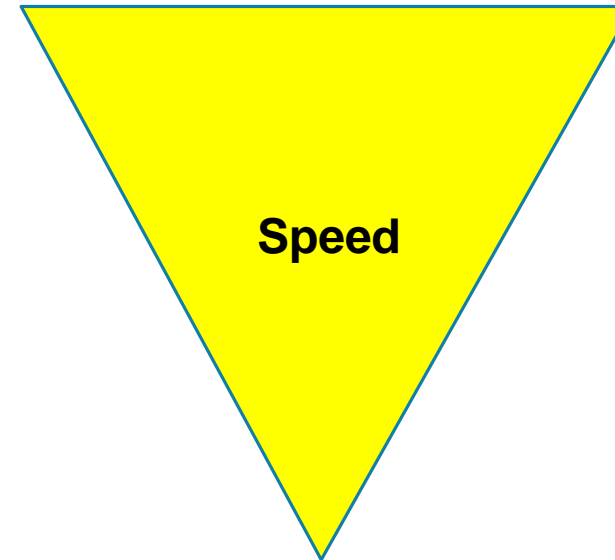
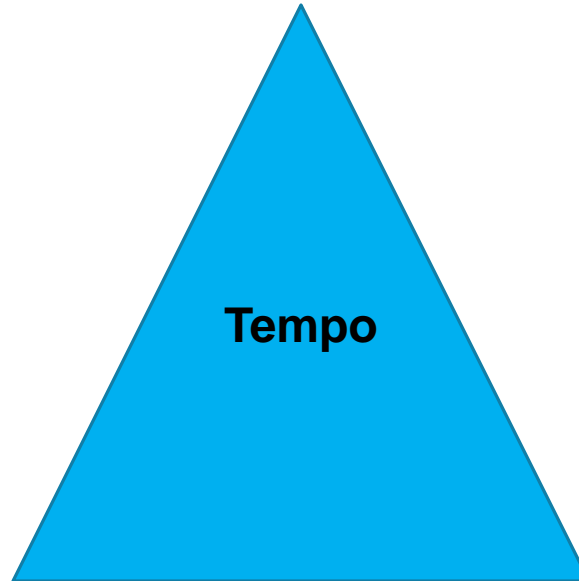
Special Endurance II

- Done at 95%
- Run lengths 300-600 m (total volume 600-1200 m)
- Recovery 8+ minutes (full recovery)
- Examples
 - 3 x 150 m
 - 2-3 x flying 100m
 - 4 x 250 m



Training Triangle Method

End of Season



Beginning of Season

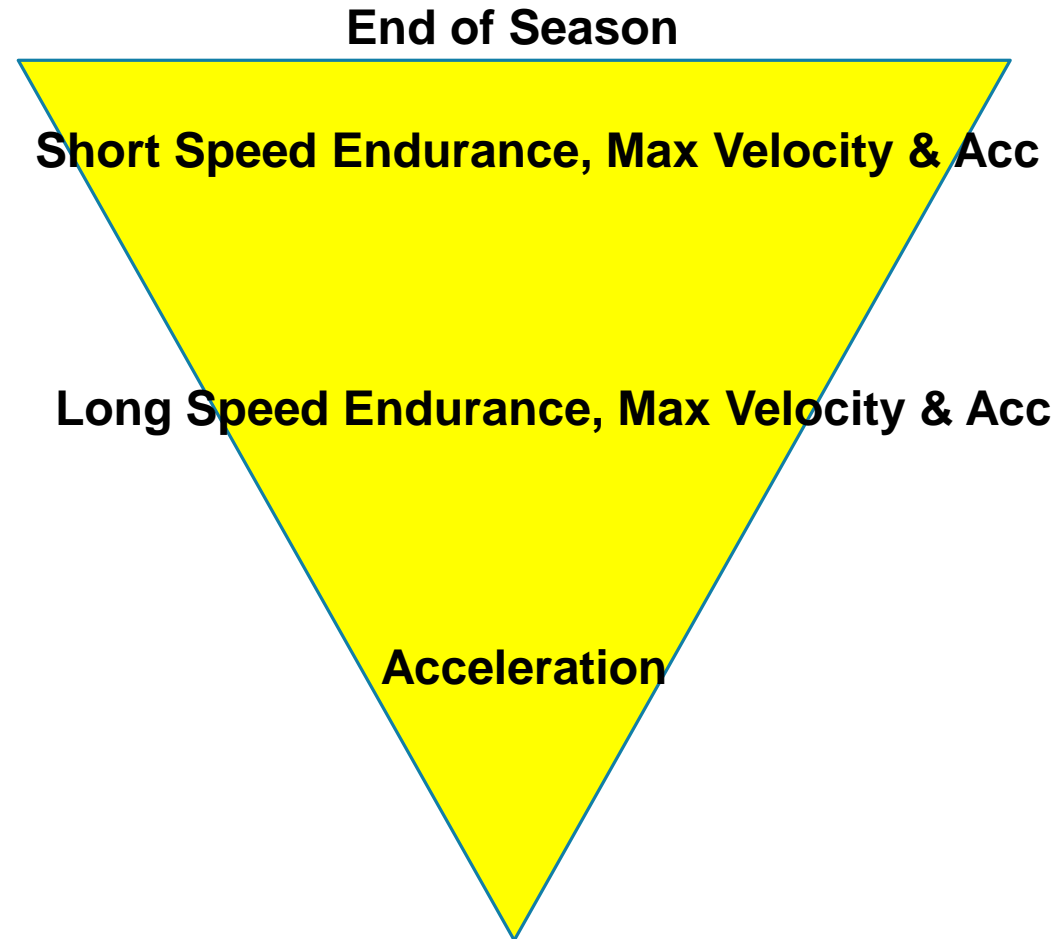


Tempo Triangle



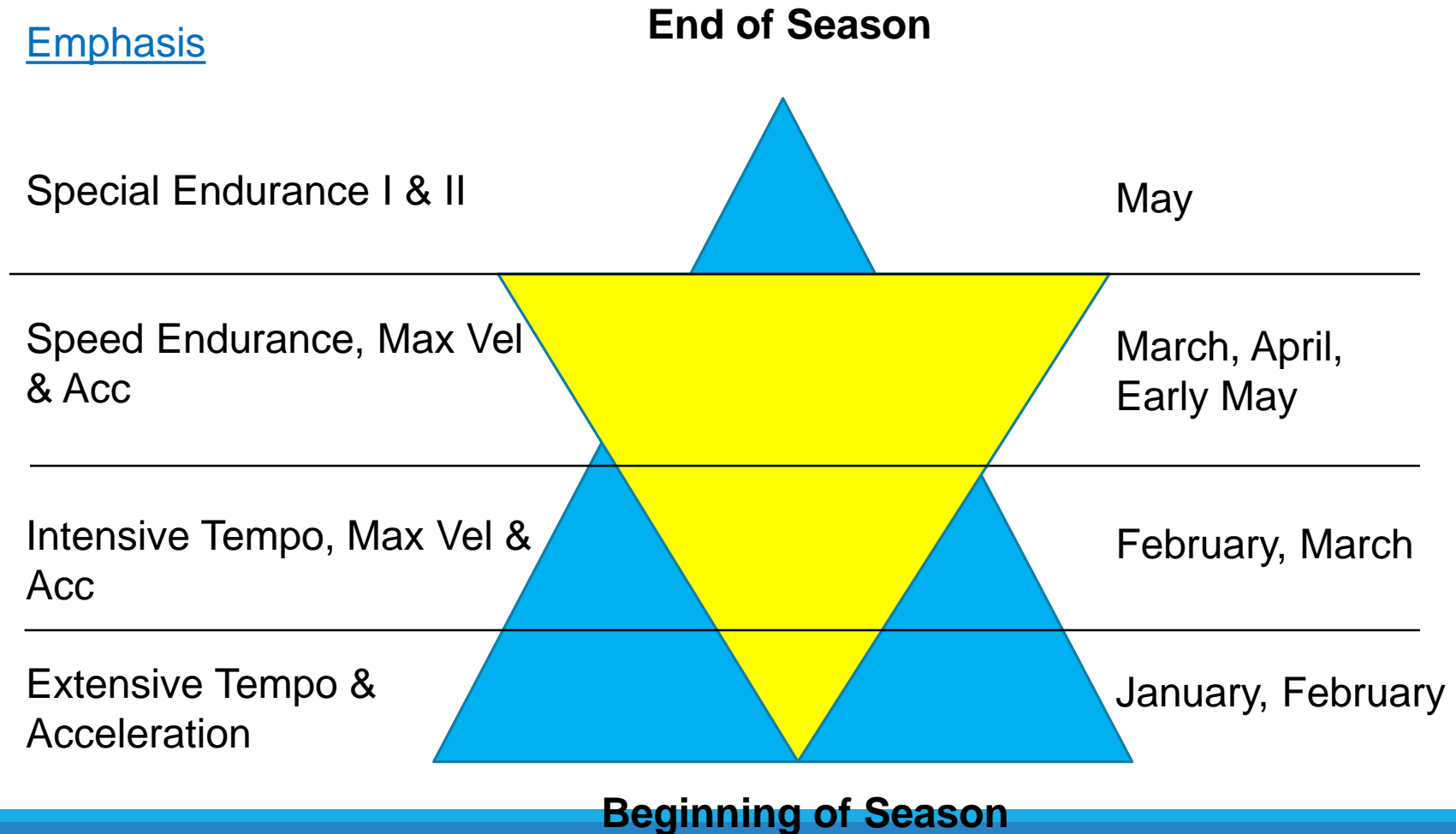


Speed Triangle





Training Triangle Method



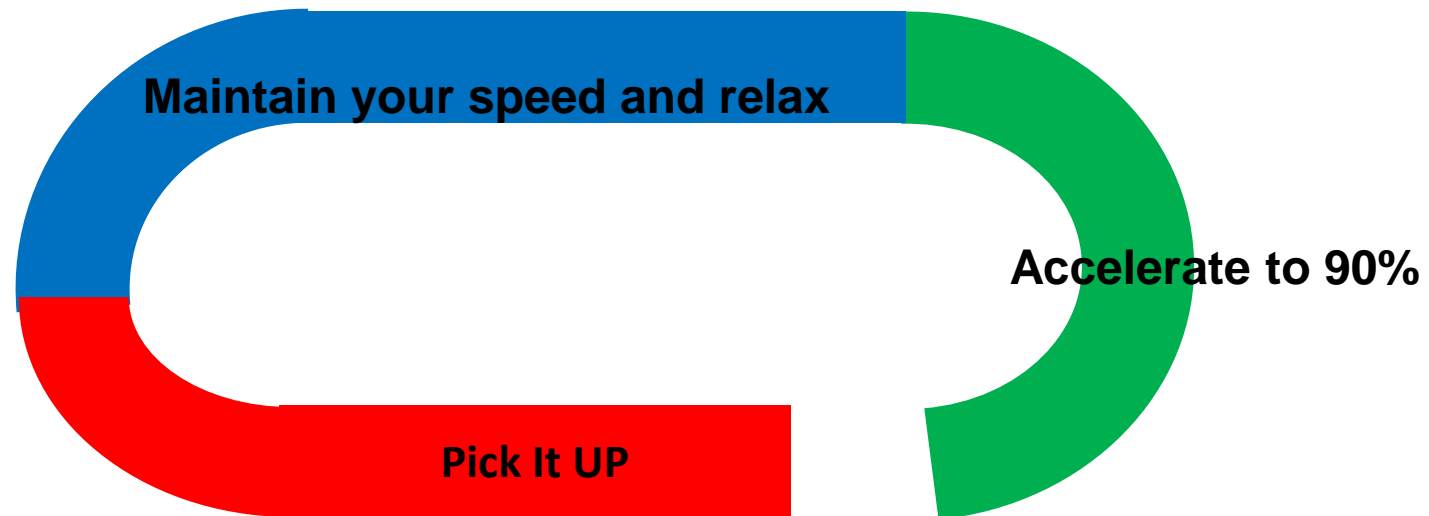


Training Tips

- During rest, make sure they continue to walk
- Do a pulse check before a Speed Endurance interval...time for 6 seconds (when they get ~16 beats or below, then start). If many of them are 18's, then have them walk some more.
- Time the 200 split for Tempo and Speed Endurance Days



400 m Race Model



400 m Race Model

49.1 split



100 m: Accelerate to 90% speed

150 m: Maintain speed and RELAX, get into position to MOVE

150 m: Slow Build Off the turn to full out sprint



Training Plan

- Develop a season long plan (break up in to micro cycles if want to)
- Everyday you should work on one aspect of Sprinting
- Make sure you tell them the **'why'** of the workout. This way they know what to expect to get out of it.
- Spring Break! No formal workouts but give them workouts for the week...Workouts that can be done on/off a track (distances/timed runs)



Training Micro Cycles

Break into 4 week cycles with a daily theme and weekly theme

Week 1: Medium

Week 2: Hard

Week 3: Medium

Week 4: Easy

If you have more than 1 meet in a week, choose a different theme for each meet

Ex) Tuesday meet (Speed Endurance) 100m, 4x100, 200m

Saturday meet (Special Endurance) 400m, 200m, 4 x 400

Speed Endurance

Long to Short

Tempo Endurance

Extensive to Intensive

Acc & Max Vel

Pre Meet

Off



Month	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January						
January						
February				Quad		
February						Dual
February						Invite
March						
March					Quad	
March					Conference	
March						
	Spring	Break	Spring	Break	Spring	Break
April						Invite
April		Dual/Tri				Invite
April		Dual/Tri			Invite	
April		Dual/Tri				Invite
May		Dual/Tri			County	
May					Conference	
May					Sectional	
May					State	State



Our Dynamic Warm-Up (20-30 min)

Planks (sides and belly)

Push Ups

L-Overs

Front and Back Leaners

Walking Hurdles

Elastic Bands-Bridge Ups

Elastic Bands-V-Sit Ups

Elastic Bands-Side Steps

Elastic Bands-Buddy Squats

Lunges

Pull Ups

Quad Bend Overs

Backward Hamstring stretch

Frankenstein's

Skipping Frankenstein's

Side-to-Sides

Carioca

Double Foot Hops

Ankle Dribbles

Calf Dribbles

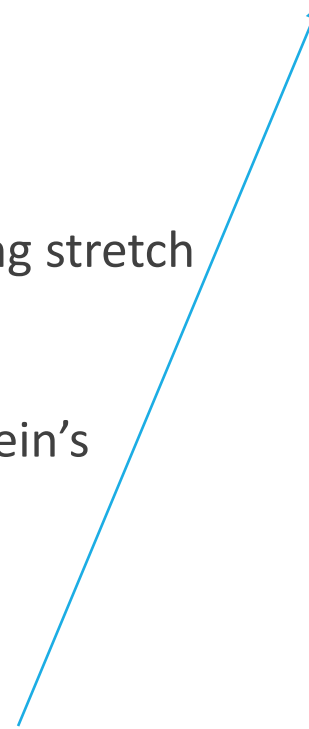
Knee Dribbles

Goose Step

Quick High Knees

Backwards

Accelerators





Our Lifting Program (lift 3-4 days/week)

Day 1

High Pulls

Bench Press

Pull Ups

DB Military Press

Hanging Leg Raises

Ride stationary bike 10'

Day 2

DB Snatch

Back Squats

Leg Curls

Step Ups

Calf Raises w/weights

Ride stationary bike 10'

Day 3

Hang Cleans

Bent over Rows

Good Mornings

Shoulder Super Sets

Hanging Leg Raises

Ride stationary bike 10'

Day 4

Front Squats

Lunges w/weights

RDL's

V-Sit Ups

Step Ups

Ride stationary bike 10'

Contact Info and Thank You for Attending

Please contact me with any questions

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