800m Training & Race Tactics

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Highlights

- Coached five (5) sub 2:10 high school girls
- Current Girl's High School National Record Holders – Eleanor Roosevelt – 8:43
- 2006 New Balance Outdoor Nationals
  - Girl's SMR National Champions
- 2006 New Balance Indoor Nationals
  - Girl's SMR & 4x800m National Champions
- 2007 New Balance Outdoor Nationals
  - Girl's 4x800m & SMR National Champions
- 2007 New Balance Indoor Nationals
  - Girl's 4x800m & DMR National Champions
- 2008 New Balance Indoor Nationals
  - Girl's SMR National Champions
- 2008 New Balance Outdoor Nationals
  - Girl's SMR National Champions
- 2008 Boy's State 4x800m Runner Up – 7:43 (only year as boy's track coach)
- 2010 Kiani Profit–U of Maryland–**NCAA National Meet Record** in 800m Pentathlon - 2:09.67

Overview

Necessary Physiological Adaptations

Executing The Plan

4x800m Strategies

Racing Tactics

800m

A true "hybrid" event

- Speed vs. distance
- Post high school – successful 800m specialists come from a speed background

Anaerobic vs. Aerobic Requirement: 60% - 40%

However, decent high school 800m runners can get away with 70-80% aerobic strength and 20-30% speed!

3 types of 800m runners in high school:

400/800

800/1600

1600/3200 (utilized for a leg on your relay or for points)

You Don't Want This To Happen To Your Athlete…

Physiological Adaptations

Factors that positively affect racing performance

- Increasing the lactic acid removal rate (or pace at the lactate threshold)

- Increasing VO2max

- Increasing peak lactate tolerance

- Improving running economy

- Improving top (400m) speed

Lactic Acid Removal

- This causes the lactate threshold pace to improve
  - The athlete can hold a quicker pace without lactic acid buildup
  - Can hold faster than LT pace for longer period due to slower accumulation of LA in the blood
    - Suggested workouts (Pace is most important)
      - Repeat 12-20min at or slightly faster than LT pace
        - 2 x 12min or 1 x 20min/10min recov/ 1 x 12min
        - Use Vigil Charts
      - Sustained runs of 30-60min – just slower than LT pace
        - 40min run ~15sec (per mile) slower than LT pace
      - Fartlek
        - 3-8mile run – 3k pace surges
      - Jack Daniel's Cruise Intervals

Improving Max VO2

Athlete can utilize more O2

- Translates to quicker pace at VO2max
- Can hold faster than VO2 max pace longer due to energy contribution from aerobic sources which decreases the amount of energy required from anaerobic sources (i.e. lactic acid production)

Repeats between 2-5min

4-8 Runner

- 2-3min are ideal
- 2 x 3-4 x 600m w/ 45 sec rest / 5 min b/w sets
- 2 x 5 x 400m w/ 45 sec rest / 3 min b/w sets

8-16 Runner

- 1000m-1600m for boys / 800-1200m for girls

Increase Peak Lactic Acid Tolerance

Allows the athlete to hold near-max 400m speed for longer period

- 30 sec to 2 min repeats at 800/mile pace or better
  - Short Rest – Goal is to keep LA elevated as long as possible
    - 3 x 3 x 300m – 30-45 sec rest / 6 min b/w sets
  - Long Rest – Goal is to repeatedly spike LA to peak levels
    - 2 x 400m
    - 2 x 300m
    - 2 x 200m
  - Full recoveries…just slower than 400m speed

Improving Running Economy

Getting "more bang for your buck!"

- High volume of strides
  - 3 x 10 x 100m (3k-5k pace) with jog back recoveries
- 400m repeats (mile/3k pace w/ 2-3min recov)
- Biomechanical adjustments
  - Drills & strength work

Improving Top 400m Speed

- Creatine Phosphate Work
  - 30-80m max speed work, full recovery
- High Volume Repeats
  - 10-15 x 100m @ 400m speed w/ near full recovery

800m Training Percentage

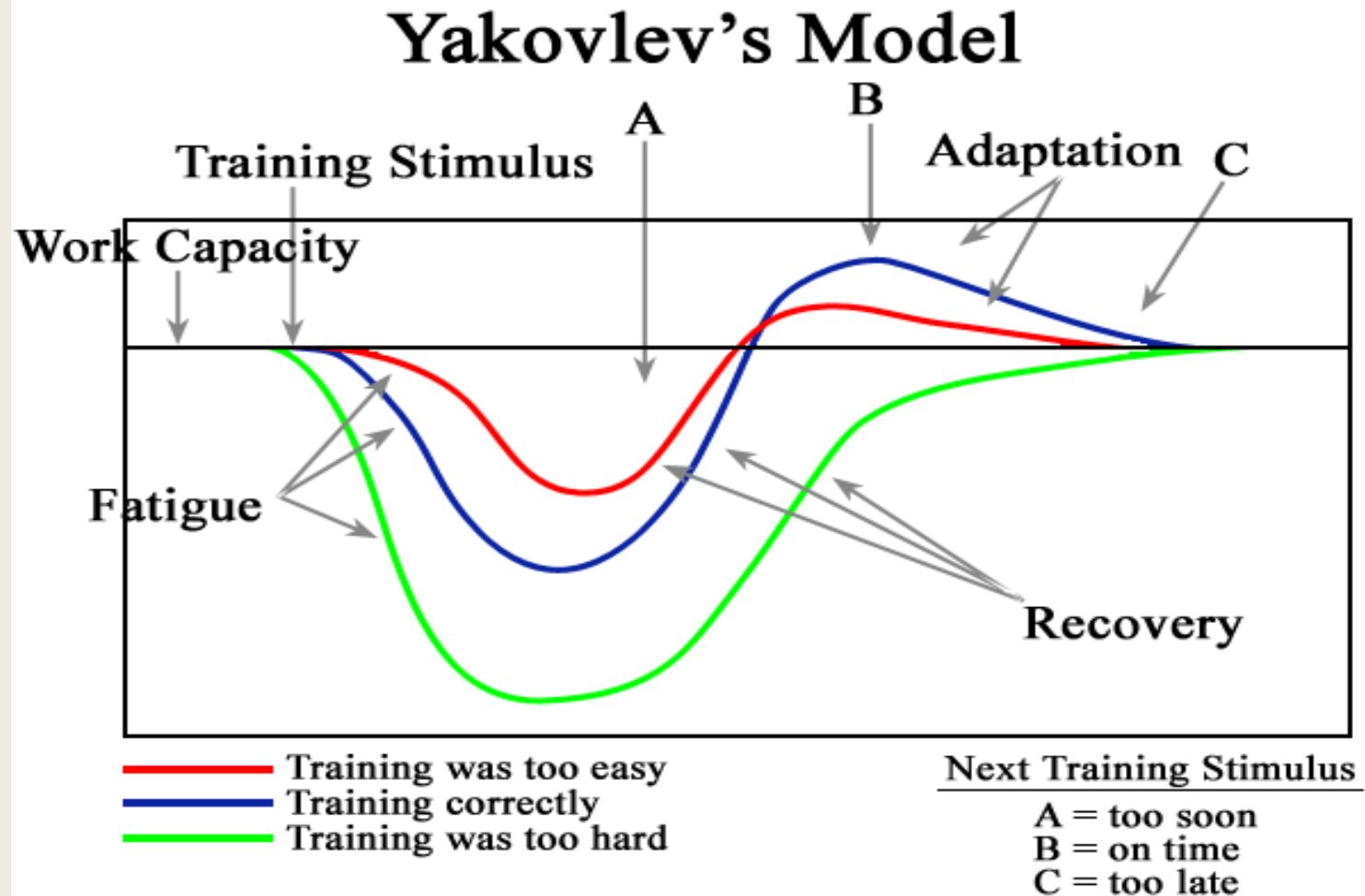| Preseason	Late Season
Speed 10-15%	Speed 40%
Anaerobic Endurance 25-30%	Anaerobic Endurance 30%
Aerobic Endurance 60%	Aerobic Endurance 30%

Standard Questions (To Ask Yourself)

Q: How many weeks do I have before our peak date(s)? ***Work backwards!!!***

Q: What energy systems will I focus on developing…have the time to develop?

Q: How will I tailor the training regimen to make it suitable for all my runners?

Model of Super-Compensation

Yakovlev's Model

Work Capacity

Training Stimulus

Fatigue

A
B
Adaptation
C

Recovery

Training was too easy
Training correctly
Training was too hard

Next Training Stimulus
A = too soon
B = on time
C = too late

Pre-Competition Phase

Aerobic Base Work

- Build to at least 20 miles per week (mpw)
- Fartlek sessions from 15-30min total
- LT Runs or Cruise Intervals
- Stepdowns (4-6 x 800m – 10 to 15 secs faster than the one before)

Aerobic Strength Work

- Fartlek
- Modified Lydiard Circuits

Low-Impact Plyos

Hill Repeats

Strength Work: Core, Weights, or Body Weight Circuits

Sample Pre-Competitive Week

- Mon   CP/Speedwork built into warm up

  Fartlek 20-30 min

- Tues   Low-Impact Plyometrics followed with easy run

- Wed   Stepdown Run (time or distance)

- Thurs   Low-Impact Plyometrics followed with easy run

- Fri   Tempo Run

- Sat   Hilly Run or Lydiard Circuit

- Sun   Rest

Core work 5-6 days -- lifting and/or circuits 2-3 days in week!

Competitive Phase

- ATP-CP Speedwork (flyin' 30-60m)
- Lactic Acid (LA) Workouts
- Pacing Workouts (@ Goal Pace)
- Speed-Endurance
- Core
- Aerobic (Easy/Recovery Runs) – critical in clearing lactic acid remnants…increases blood flow to peripheral tissues
  - Speeds healing to micro-cellular tears and mitochondria/capillary damage
- Max VO2 (800/1600m runners)…less of this for 400/800m runners
- Threshold (late competitive phase or when needed)

Sample Competitive Week

- **Mon**   CP/Speedwork built into warm up

                     Tempo Run

- **Tues**   Max VO2 or Speed Endurance (long repeats)
- **Wed**   Easy Run / Technical Work
- **Thurs**   L.A. Workout
- **Fri**   Easy Run
- **Sat**   Time Trial, Low Key Meet, or Tempo Run
- **Sun**   Rest

Core work 5-6 days -- lifting and/or circuits 2-3 days in week!

Sample Competitive Week w/ Competitive Meet

- **Mon**   CP/Speedwork

  Tempo Run
- **Tues**   L.A. Workout
- **Wed**   Easy Run/Technical Work
- **Thurs**   Pacing Workouts
- **Fri**   Easy Run
- **Sat**   Competitive Meet (common to run off events)
- **Sun**   Rest

Core work 5-6 days -- lifting and/or circuits 2-3 days in week!

Signature Workouts

- 4x(4x200) @ 800m pace w/ 90 sec rest (5 min. b/w sets)

- Broken 800's- 600 fast/200 jog/200 fast 300 fast - 3 min. recovery, then 4-6 200m w/ 1:1 reco

- Goal Workout: Fast 300 - 3 min. recovery, then 2-3x400m w/ 1:1.5 – 1:2 recovery @ 800m pace

- 2(500m/400m/300m/200m) w/ matching distance as recovery b/w reps & 10min b/w sets @ 800m pace

- 3-4 x 1000m or 1200m @ least 95% of Max VO2

End of Workout

- Sprints:
  - 40's, 50's, 60's, 80's, 100's, 150's
- All-out or build-up 300m
- Barefoot Drills
- Band Drills

Band Drills

Racing Tactics

"Sit & Kick" Tactic

"Dash & Crash" Tactic

Predicting 800m Time (Advanced Runner)

Prediction assumes an <u>aerobic base</u>

- Take average best three (3) 400m
  - Multiple 10% times average best
  - 55 sec average best x 10% = 5.5
  - 1st lap speed = 55 sec + 5.5 = 60.5
  - Same process for 2nd lap
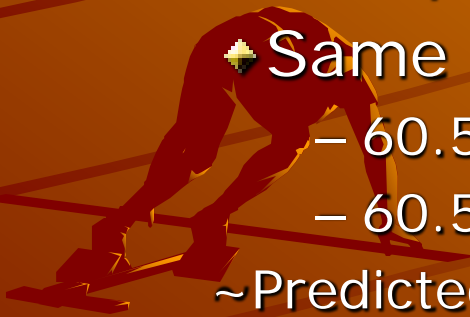   - 60.5 x 10% = 6 sec
    - 60.5 + 6 = 66.5
  - ~Predicted Time = 60.5+66.5 = 2:07

  Note: typically over 54, formula may be slightly distorted, but still relatively accurate

  --OR--

Predicting 800m Time (Novice Runner)

Most common method:

- 1st lap five (5) sec slower than fastest 400m
- 2nd lap ten (10) sec within the 1st lap

As an athlete becomes more fit and efficient, the gap will close b/w the 1st and 2nd lap.

GOAL: Reach 500m with lowest level of lactate!

ACHIEVING OPTIMAL PERFORMANCES

- Finding the race in practice
- Strategies
- Training through meets
- Post meet runs
- Peak meets (selective meets)
- Over/Under theory
- Mental Toughness

4x800m Exchanges

Good exchanges can save .2-.5s/leg
- **Semi-Blind** (1,2,3 turn)
- **Statue of Liberty**
  - Outgoing Runner
    - Emphasize steady & open (v) hand
    - Hand at shoulder level
    - Judge speed of incoming...1,2,3 turn
  - Incoming Runner (w/ baton)
    - Responsible for successful exchange
    - Run the baton all the way through

Characteristics of each leg

Lead-off leg

Aggressive, strategic, credible, good judgment & composure and can stay in the hunt

2nd leg

Typically best or 2nd best runner, high racing IQ

3rd leg

Distance runner who lacks speed but has ability to run strong and even

4th leg

Gutsy, competitive spirit, risk taker, and has fairly good speed for a strong last 150m

Conclusion

- Success feasible for either distance-based or speed-based athletes in HS
- Advanced level runners must train and adapt to velocities requiring workouts that produce and force clearance of high amounts of LA
- Plan must be balanced with turnover (ATP-CP) work as well as speed-endurance

Your Job

- Understand your athlete as a person first

- Train energy systems in a "hard-easy" format

  -allowing proper recovery,

  -developing a sense of pacing and race strategy, and

  -emphasizing speed

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