An Approach to Developing Specific Endurance in the Sprints and Hurdles

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Harvard University
Specific Endurance

- Influences
- Overview
- Specific Principles
- Examples
Dan Pfaff

• What are the KPIs?
• Can they be successful?
• Solar System
Boo Schexnayder

No death marches

Volume & Intensity

CAUTION
Heavy load
Tony Wells

-Because of or in spite of?

-Why do you do that?

-Can you bring it to the track?
Gary Winckler

• What are you trying to accomplish?
Yoda

• Be patient, have a long term view

• Be demanding, have standards
Key Factors

• We prioritize neuromuscular development

• We believe in building a BIG BASE - a base of speed and power
Key Factors continued

- Specific Endurance/Work Capacity is NOT simply running
  - warmup through cooldown
  - entire cycle
  - long term development
General Prep

- 3 days a week devoted to Acceleration, Speed, and Power Development

  - **NM Development – Building the Base**
    - Acc Dev. - Day 1 (12 runs – ex. 4x10, 20, 30)
    - Acc Dev. – Day 2 – Resisted Runs (12x30m, 10x40m, 9x50, 8x60m)
    - Speed Dev. – wickets, stadiums, or strength endurance
    - Also doing multijumps, multithrows, and Olympics/Statics

- Other days are General (reduced intensities) to foster recovery
  - Technical work (jump tech, hurdle tech, sprint tech)
  - General strength circuits/medball circuits
  - Hurdle Mobility and Bobybuilding/Auxiliary Lifts
Grouping by Neuromuscular Demand

Neural Components
- Acceleration Development
- Speed Development
- Speed and Specific Endurance
- Multijumps
- Olympic Lifts
- Static Lifts
- Ballistic Lifts
- Multithrows
- High Intensity Technical Work

General Components
- General Strength
- Medicine Ball
- Extensive Tempo
- Intensive Tempo
- Bodybuilding Lifts
- Low Intensity Technical Work
General Prep

• 1200-2000m (day 6) sprinters, hurdlers, jumpers, multis
  – 10x120m, 8x150m, 6x200m, 12x100m [2’] - 2nd cycle add 1’
    (intensity overload)
  – surface choices

• For 400m/400H group may add 2nd day in Cycle 2 (day 3)
  – 250+50, 200+50, 150 [6’, 10’] 150+50, 100+50, 50 [VA]

• 100m/200m/100H/multis
  – 4-6x80m up-backs (rationale)
  – Cycle in and out (strength endurance)
  – Variance
Specific Prep Onward

QUALITY OVER QUANTITY: LET YOUR GUIDING RULE BE NOT HOW MUCH, BUT HOW GOOD.
Specific Prep

- A, B, C – we are all going to work hard, but may not do the same thing
- Begin to ladder down
- Individualize more – skew more toward strengths
- Careful to balance acceleration, speed, specific endurance and wt trn
- Rest and Recovery/Regeneration Key
- Plan your imbalances
100m

- **Sprint-Float-Sprint (SFS)**
  - 45/65/80-85
  - 50/70/90
  - 30/30/30
  - 40/40/40

- 150, 120, 90
- 120, 90, 70
- 80, 70, 60

- Will often do elastic work after (skips, bounds) –

- 4-6x30-50m
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Beams at 40m, 80m, 120m - other splits taken from Dartfish

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Beams at 30m, 50m, 90m - other splits taken from Dartfish

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Beams at 30m, 50m, 70m - other splits taken from Dartfish
100H/110H

- 2x12H (reduced space and height)
- 2x8H, 2x6H
- 4x8H
- 25m run-in + 6H
- Combos
  - 2x12H, 2x120 or 90m
  - 2x8H then
    - 2xSFS (or)
    - 6x50m Skips ht/dist (or)
    - 4x50m SL Bound
200m

- 250m, 200, 150
- 2-4 x SFS
  - 50/50/50 or 40/40/40
  - ladder down
- 180, 150, 120
- 2x180, 150 then 3-5 x 50m
  SL Bound or Skip
- 2x150 or 2x250
  - then 4-6x50m (run, skip, bound)
100/200m/4x4 combo

- 1 “long” run +
  - 300m + 5x60m
  - 250m + 3x50m up/back
  - 300m + 4x80m
+ can be runs, skips, bounds, stepovers

- 3x133

**use these methods sparingly
- especially in season **
400m/400H

• 500, 400, 300
• 450, 350, 250
• 350, 250 then
  – 6x50-90m or 6x50H
• 300, 200, 120 then skip
• 350, 3x133, 2x200m
• 2x450 or 2x350 or 450, 350
• 2-3 x (3x133)
• Split runs (300/200, 350/150, 250/200) – 2nd run can be over hurdles
• 1 longer run then bouts of short work
400H

- 9H (reduced space)
- 1x7H then ??
- 200m+200H
- 250H/150H then
- 1 long run then bouts of shorter work
- 3-4x4-5H then ??
- 1-2x6-7H,

Then sets of 4H (H6-9) or (H5-H8)
Examples – pt 1

**Monday, May 16, 2016**  
- 2x7x80m [GT – 6 reps per set?]  
MJ – Pfaff – 2x10-20m (1 w/MB?); GS – Yavin 24″ on/12″ off;  
MB – Tatooine x 10; HM Static (1-4, 6, 7) 2x5H  

**NOTE** : 1 – backwards; 3+4 single leg; 7 – backwards (back 2, forw 1)  
CD – Banded Stretches/Ball Work + Drills  
A – 2x15m

**Wednesday, May 18, 2016**  
**NM** - 150m (12-15 min), 120, (90m or 2 x 40m Skip for HT)  
**GT/CS** - 2x180 (12-15 mins), 1x150... then 3-5x50m SL Bound  
**AF/JM** - 1x250H (7H) (60") 2x150H (H8-9-10-11?) [3-4 mins] 15 mins - 2-4x150H  

Lift - Olympic – 6x1-2 progressive or 6x3 (light, fast) or Single Leg – 6x1  
(l-r) Bench – 5, 3, 1; Russ Tw – 2x10 (standing w bar)  
MT – Latifah x 2 (light shot); CD – 3 mins skip+side shuffle + Malcolm X; PM – EPSPOM SALT
Examples – pt 2

Saturday, May 21, 2016
JMill – 1x500m (8-12 mins) 3-5xH6-H9
AF – 1x300m (8-12 mins) 3-5xH7-H10
GT – 1x300m (8-12 mins) – 4x60m (1 min)
NM – 3x80m (8-10 mins)

CS – ?? (1x300m.. then) or Stepovers and MT only

Thursday, June 02, 2016
MJ – 2x10 Bound or 2x6 Bound

GT – 3 runs (150, 120, 90)
NM – 3 runs (120, 90, 70)
AF – 1x9H (2 mins) H6-H10 [20-25 mins] then TBA [3x150H]

Lift – Olympics – 3x2, 3x1; 1/4 Jump Squat – 4x4 @20% bw; Incline 3x6; Russ Tw – 2x10
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Adjustments

• When it’s going well or better than expected?

• When it’s not going as well as planned?

BE STUBBORN ABOUT YOUR GOALS, AND FLEXIBLE ABOUT YOUR METHODS.
Examples – pt 3

December 11, 2016 – Autumne/Jade
AF/JM– 3x180m (6.5 mins/8 mins), 2x140m (5 mins)
3xwickets w 10m run-off

Adjusted from 6 mins due to quality...added 8 mins after 180s
Individualize within our philosophy
Plan B

KEEP CALM AND PLAN B
Ancillary Bike Sessions

Workout #1: Acc. Dev. Theme; Complete 15-25 bouts of 10 seconds at very high wheel resistance. Do not start the timer until you reach critical speed threshold. Use 1' rest within each set and 3-5' between sets. Common setting is 3x5;5x3;5x5;etc.........It is best to get up and walk around during the set pause period....to avoid bike butt issues.........seat height is dependent on health issues.....full knee extension is desired here if health issues permit this range of motion.........

Workout#2: Speed Dev. Theme; Complete 10-15 bouts of 20-30 seconds at high resistance. Do not start the timer until reaching desired speed value. Use 2-3 minute rest within the set and 5' rest between sets......if health permits use a set height that allows for 90-95% knee extension values........

Workout#3: Special Speed Endurance Themes; Complete 8-10 bouts of 45-60 seconds at medium to high resistance. Do not start the timer until you have reached prescribed speed values. The rest intervals vary here depending on desired endurance qualities to be challenged. They range from 30 seconds up to 5 minutes.......The session goal of the original daily plan will dictate the rest factors.....

These sessions are designed to serve as plan B type formats. If you are caught on the road in bad weather, have a late arrival, fighting illness and or injury, etc. these are indoor series that will help to keep biochemical properties stable, positively influence neurotransmitter pools and pathways, and do wonders for cardiovascular functions.........there really is no excuse for not staying half way fit during times of "unscheduled interuptions".......
Plan B

- Stepovers – Various Constructs, heights, speeds, progressions

- Pool
General Work for Speed-Power Athletes

- Purpose of general work?
- Diff Types of General Work
- Lactate as an anabolic tool
- Running Volume
- Balance throughout the body
- Variety
- Regeneration/Sport Health
- Movement Screens
General Work
General Work
Thank you

- Email – kebba_t@hotmail.com