

MTCCCA General Sprints Talk

A College Coaches Thoughts on Developing HS Sprinters

1. Programming

- a. Just some thoughts utilizing USTFCCCA framework on developing high school sprinters
- b. This is largely an abstraction from my core philosophy in developing collegiate sprinters
- c. Balanced Approach
 - i. Emphasize general work and acceleration
 - ii. General, neural, extensive
 - iii. 2 of each throughout a week is a great way to play it at all levels
 - iv. Be sure to match neural and general days
- d. Lots and lots of general work!
 - i. Can do those on general days and at the end of extensive days
- e. Don't overdo Tempo training
 - i. Way too common of a mistake
 - ii. Workouts can certainly be challenging while also preserving sound mechanics
 - iii. Would rather do shorter distances with higher quality
 1. However, with really competitive athletes make sure the distances are long enough where they stay in a 'tempo' effort type zone
- f. Don't overdo Speed training
 - i. Becoming a common mistake
 - ii. With less developed sprinters I think taking 5-10% intensity off the sprints is extremely effective, build good patterns but don't wait for mastery to push them too
 - iii. A great happy medium is to work lots of resisted acceleration sprints
- g. Teach sprint mechanics
 - i. Be willing to dial back intensity to upgrade movement
 - ii. Balance between maximal effort and sound execution
 1. Need to teach and get athletes to feel good positions
 2. But also need intensity to gain big neural adaptations
 - iii. Acceleration
 1. Push maximally
 2. Shove the hips forward
 3. Push through the post
 - a. In line with the spine
 - b. Juggernaut
 4. Stiff ankle
 5. Big arm range of motion
 6. Make sure front shin rolls forward on initial push
 7. Posture rises approximately 5 degrees each step
 8. Rhythm, rise, projection
 9. Big thigh split
 - iv. Transition

1. Make sure to train this
2. Push as deep into the sprint as possible
3. Come upright naturally
- v. Absolute Speed
 1. The tricky thing with upright sprinting is how opposed it is to acceleration
 - a. Acceleration each step lengthen and posture rises
 - b. Real sense of building through the sprint that's easy to get an athlete to feel
 - c. With upright sprinting it's quite different, posture is no longer building, it stays upright and the cadence of each step feels nearly identical when executed well
 - d. Acceleration more of a build, absolute speed is more uniform
 - e. Step over knee
 2. Stacking head-shoulders-spine-hips
 3. Vertical striking
 4. Front side dominant
 5. Minimizing backside mechanics
 - a. Positive running
 6. Relaxed shoulders
- h. Lots and lots of acceleration
 - i. Should be a workhorse training activity
 1. It's safe
 2. Probably the most important skill for a track and field athlete
 3. The power development gains through copious amounts of acceleration can't be achieved elsewhere
 - i. Rudimentary strength and power development would have a dramatic effect
 - i. Basic multijump training
 - ii. Lots of multithrows
 - iii. Teach Olympic lift derivatives
 - iv. Full range of motion static lifts
 - j. Think of activities that are low risk, high reward and exploit it
 - i. Acceleration
 - ii. Multithrows
 - iii. General Training
 - iv. Rudimentary multijumps

2. Neural

- a. Acceleration
 - i. If athletes need more skill development and can't hit good sprint positions
 1. Have them take 5-10% off on their speed work to feel positions better
 2. Have them do more resisted work to fill out force application
 - a. Sleds
 - b. Hills
 - ii. Use tape line drill on virtually all acceleration work

- b. Absolute Speed Development
 - i. I've often used 95% type efforts to feel positions
 - ii. Drills can actually have a nice effect here
 - iii. If you do submaximal/drill as your MV that's not a bad idea but I'd also compliment it with some exposure to big vertical forces as well for reactive strength development ie multijumps and multithrows
 - iv. Wickets, form runs, MB knee punch, dribble variations are all effective ways to layer in sound mechanics, but have to find ways to bleed it into greater intensity, in other words into sprinting
- c. Race Modeling/Speed Endurance
 - i. Can also use submax efforts or knockdown routine
 - ii. Curve running
 - iii. Lots of starts on the curve
 - iv. Rehearse smaller beginning portions of the race
- d. Strength Training
 - i. Be sure the movement patterns are sound
 - ii. Less is more
 - iii. Keep lifting simple, don't have to get too cute
 - iv. Complex static lifts with simple jumps
 - v. Fuller range of motion lifts are probably best for younger athletes but be careful on overloading the spine
 - vi. Olympic lift derivatives can be great sources of power development, especially if they aren't ready to load the bar and catch it
 - vii. I think the best strength training for younger athletes is general, wide varieties of movements in circuit format
 - 1. Extremely healthy for younger athletes
- e. Multijumps
 - i. Rudimentary probably best for young athletes
 - 1. Bilateral
 - 2. Low Amplitude
 - 3. In-Place Circuits
 - 4. Rudiment Series (Pfaff)
 - ii. Standing Jumps
 - 1. Standing LJ
 - 2. Standing TJ
 - 3. Continuous Standing LJ
 - 4. Single Leg Standing LJ an option
 - iii. Boxes
 - 1. Low Box Depth Drops
 - 2. Low Box Depth Jumps
 - 3. Vertical Box Jumps
 - iv. Other Options
 - 1. Low Ankle Squat Jumps
 - 2. Lunge Jumps
 - 3. Squat Jumps
 - 4. Staggered Jumps

- 5. Weight Vest
- v. Thoughts
 - 1. I like keeping horizontal jumps in the program all year for all levels of athletes
 - a. Tremendous horizontal forces are great
 - b. The weight room is almost entirely vertical
 - 2. Reactive vs Active
 - a. Reactive is bigger bang for buck but more taxing
 - b. Low amplitude reactive works great for developmental athletes
 - c. For sprinters I tend mostly do Bilateral work and just add intensity throughout their career
- f. Multithrows
 - i. I'd highly recommend relying heavily on various forms of multithrows
 - 1. OHB
 - 2. UHF
 - 3. Vertical
 - 4. Chest Pass
 - 5. Rotational Toss
 - 6. Single Leg Variations
 - 7. Slams
 - ii. Tremendous total body coordinative power activity
 - iii. Huge power development gains
 - iv. Can progress by weight of the med ball/shot put
 - v. Easy to test
 - vi. Almost no injury risk
 - vii. Great under-utilized in my opinion

3. *General*

- a. General Strength Circuits
 - i. Conditioning
 - ii. Mobility
- b. Bodybuilding/Plate Circuits
 - i. For younger athletes I'd do this and/or general strength 3-4 times a week
- c. Hurdle Mobility
 - i. Build this into the program weekly
 - ii. Could even just make it part of the warmup
- d. Pool
 - i. Great spinal decompression
 - ii. Trains running cycle great
 - iii. Prefer deep end with floating device
- e. Bike
 - i. Intensive
 - ii. Extensive
 - iii. Scramble
- f. Scramble Circuits
 - i. Running

- ii. Backward Running
 - iii. Drills in between
 - iv. Bike/Pool
- g. Games/Relays
 - i. Scramble circuit relay
 - ii. We do this periodically in the fall
 - iii. Pool relay
- h. Yoga
- i. ELDOA
- j. Massage/Manual Therapy
 - i. RPR, MAT, pretty much name a 3-letter acronym
 - ii. Chiro
 - iii. Massage Therapists
- k. Thoughts
 - i. The body craves variety and general days can serve that
 - ii. Can create combinations of all of the above
 - iii. If you feel like your athletes need more 'conditioning' scramble circuits and relay races will provide that in a safe and healthy manner
 - iv. Make something competitive and intensity goes way up
 - v. Include all kinds of rotational, backwards, sideways, multiplanar type movements throughout the program
 - 1. So incredibly vital to younger athletes, even older athletes, fills in strength gaps, provides mobility, release of growth hormone, stimulates recovery from neural work
 - 2. Jar example

4. Extensive

- a. Drills
 - i. Dribbles
 - ii. MB Knee Punch
 - iii. Switches
 - iv. Drill Bleeds are effective
- b. Wickets
 - i. Flat or Up
 - ii. Running Shoes or Spikes
 - iii. Progress run in
 - iv. Tinker with wicket column for more force application or frequency
- c. Extensive Tempo
 - i. Shorter rest, less intensity for aerobic power
- d. Intensive Tempo
 - i. Longer rest, higher intensity as a bridge to speed endurance
 - ii. Short to long method most effective in my experience
 - iii. Long to short has been effective in programs, it's never worked for me
- e. Hills
 - i. If you have access to longer hills in the 80m+ range this is very effective
- f. Thoughts
 - i. Think submaximal specific work for extensive

- ii. Drills work great to introduce concepts but ultimately it has to be wedded into sprinting at higher and higher intensities
- iii. Tempo is good and healthy but don't see it as the most important thing just because it's the most aerobically taxing
- iv. Tempo is good and healthy, but speed/power development is by far more important
- v. I think it's important not to neglect it either though

5. Possible Sample Programming

- a. Monday: Neural
 - i. Warm Up
 - ii. Standing Jumps
 - iii. Drills: Wall Drills (Technical Prep)
 - iv. Acceleration Development: Sleds and Unresisted Tape Accels (300m-500m)
 - v. Multithrows: UHF
 - vi. Power Cleans or Power Clean Pulls
 - vii. TBDL + NCM Vertical Jump
 - viii. Ancillary Lifts
 - ix. Multithrows
- b. Tuesday: General
 - i. Warm Up
 - ii. Plate Circuit
 - iii. Hurdle Mobility
 - iv. General Strength Circuit
 - v. Cool Down
- c. Wednesday: Extensive
 - i. Warm Up
 - ii. Drills: Dribbles
 - iii. Intensive Tempo: 250-250-200-200 (6 mins) (80%)
 - iv. General Strength Circuit
 - v. Cool Down
- d. Thursday: General
 - i. Warm Up
 - ii. Med Ball Circuit
 - iii. Hurdle Mobility
 - iv. Plate Circuit
 - v. Cool Down
- e. Friday: Neural
 - i. Warm Up
 - ii. Drills: Wickets
 - iii. Absolute Speed Development: Sprints between 40m-70m, full recovery, total volume of 300m-400m
 - iv. Multijump Circuits (In-Place)
 - v. Hang Cleans or Hang Clean Pulls
 - vi. Squats + Pogos
 - vii. Ancillary Lifts

- viii. Multithrows
- f. Saturday: Extensive
 - i. Warm Up
 - ii. Extensive Tempo: 6 x 35s Grass Runs (2 mins) (70%)
 - iii. General Strength Circuit
 - iv. Cool Down
- g. Sunday: Off