

The Simple Secrets of Developing Great High School Sprinters

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Regardless of the sport, speed is the essential component for success. On the surface, developing speed appears to be very complex, when in reality, it's very simple. Let's look at some of the components for developing successful sprinters.

In 1992, I began to closely examine what I was doing as a sprint/hurdle coach. I was not satisfied with the performances of my sprinters. I became sick and tired of watching my sprinters run 11.0, when I knew deep down, they were more talented. I began to study sprint research extensively. I consulted with good friends like, Loren Seagrave, Dan Pfaff, Ron Johnson, Tony Veney, and Orin Richburg to name a few. About this time, I became heavily involved in coaching education with USATF. The problem I discovered was an unfocused training plan with virtually no focus at all on velocity. The secrets are so simple when one understands several concepts.

First and foremost, I began to test all of my athletes. I had to identify their strengths and weaknesses before I could develop their training plan.. We test with a 30 meter fly, a standing triple jump, standing long jump, 3 bounds, and overhead throw with an 8 pound shot. I've also included a 30 meter out of blocks, a 60 meter fly and standing 150. I measure trochanter lengths for block settings and acceleration work. I tabulate the results and share them with the athlete. Numbers don't lie, so it's much easier to get the athlete to buy into what you are doing. "Kids today don't want to know what, they want to know why!"

Stride length and stride frequency are two aspects of speed. As mentioned above, I measure trochanter lengths of each athlete. We'll test stride length by baby powdering the track and doing fly 30's through the powder. Trochanter x 2.35 is the low end of the stride length and trochanter x 2.50 is the long end of the stride length. Do all your measurements in the metric system to simplify. You'll need to identify whether or not you need to increase or decrease stride length or stride frequency. This test is absolutely essential!

Our next focus is dynamic mobility. I want to increase movement flexibility, especially in the hip flexor area. The country is so consumed with static stretching and that's fine. That is a great way to put the central nervous system to sleep after a hard workout. I'm not sure why we want to put the nervous system to sleep before a workout or meet. Static stretching has its purpose and that is at the end of the meet or practice, not the beginning. Range of motion is critical for a sprinter.

When a athlete is really warmed up, that's the time to work on range of motion. We'll spend a minimum of 30-40 minutes in an active, dynamic warm-up. Big toe flexibility is essential for a sprinter. There are special receptors in the flexor halicus longus that controls the gain on the spinal motor neurons to the lower extremity. With increased rate and magnitude of stretch you

are essentially about to recruit more motor units. You can use manual therapy to increase mobility. You might say the big toe acts as a light switch. Ankle flexibility is also crucial.

Like most American sprint coaches, I was pre-occupied with aerobic conditioning. Continual focus on aerobic training for sprinters is somewhat like making a pumpkin pie with motor oil. Your intentions are good, but you are using the wrong ingredients. Now I am all-consumed with increasing maximum velocity. What good is it to be aerobically in shape if you are slow. Remember, you will program the neuromuscular system to fire at the speed in which you train it.

I want the athletes 30 meter fly times to be in the sub 3.0 range for boys and sub 3.5 range for girls. Everything revolves around making their 30 meter fly faster. As the 30 meter fly time comes down, so will their sprint times. I quickly found my 11.0 sprinters down in the 10.7-10.8 range and in Gabe Garrett's case, even faster. Many tell me, my athletes will get hurt running so fast in practice. There is no truth to that. We'll work on velocity every 72 hours to allow time for the central nervous system to rest. Train the nervous system to fire fast or train the nervous system to fire slow. The choice is pretty simple.

Two other overlooked areas are nutrition and chiropractic care. We have an excellent nutritionist, Sarah Aires, who works with the kids, not only explaining what to eat, but why. She gets their attention when she tells them things like: 1. 4 ounces of caffeine, which is really hard on the adrenals, takes several hours to filter out of the system, 2. White cheese is much easier to digest, than yellow, you need to drink 1/2 your body weight in ounces of water each day and sugar shuts down digestion. Carbo loading is absolute nonsense for sprinters. Speaking of Chiropractic care, after working with the two best amputee sprinters of all-time, it was apparent to me that both needed chiropractors. Their hips were out of alignment from running on the prosthetics. Trust me, many of your injuries are directly related to a misaligned skeletal system. I watched Dan O'Brien get adjusted between several events at the Goodwill Games in New York City. If they needed the care, what about my high school athletes? In 2000 and 2001, I couldn't keep Alton Hodges or Janae Young healthy. Mid-way through the season, both began to see my chiropractor, Dr. Murray Smith. Janae and Alton were miserably out of alignment, continually aggravating the hamstrings and lower back. Their state results speak for themselves and are a result of him being aligned, healthy, eating a great diet and quality training.

As far as actual training, I put a tremendous amount of time into our training plans. I share the plans with kids and explain it to them if they ask. I have nothing to hide! As I mentioned earlier, we work on velocity every 72 hours. We follow up with lower intensity work, technique work, film analysis. Phil Lonborg does a superior job with the weight training aspect. The jump training is progressive in nature. (Jump ropes to in place jumps to short jumps to endurance bounds to depth jumps.) A great weight program, with well thought out jump training, coupled with velocity training will create sprint machines.

The final, often overlooked component is FOCUS. There are so many worldly distractions that impact sprinters. Sprinters must be focused. Overlooked, is the idea that you have to teach someone how to focus. In today's world, you can take nothing for granted. If we have to teach kids how to run, what makes us so convinced they know how to focus? Our advanced, experienced sprinters are taught a race model. (A plan of what will happen during different phases of the race.) If the athlete is unable to block out distractions and focus, they are doomed

and the race plan will never succeed. We actually talk about and make focusing a major emphasis of every practice session. Our athletes can actually diagram out, what their race will look like on paper, during the different phases of the race.

It appears from writing down all this, that I truly believe in this philosophy. I do continually evaluate our training plans and modify when necessary. Having athletes with God given talent, supportive parents and a desire to be the best makes my job just a little easier, especially if they are opened minded and eager to learn.

Here is a list of some of my favorite workouts with brief explanations:

You'll quickly see that all energy systems for the sprinter are covered.

**fly=a 15 meter run in*

1. 400 THE HARD WAY-The athletes will do 10 x 40 meter flies. Time them and add them up. This is a great workout to motivate the athlete. The intensity of the workout is awesome. They'll produce some great 400 times, doing the 400 in segments of 10, 40 meter flies. It will trash their legs and you'll need to reduce your training intensity and load after this workout for a couple days.

2. 1 x 43 seconds at 100% off a fly, with a 90 second rest followed by a 200 meter sprint. If your athletes don't understand lactic acid levels and their affect on the human body, they will after this workout. This workout doesn't seem like much, but it's monstrous. Tony Veney at Oregon suggested the workout to me and it's been a great workout.

3. 6 x 30 meter flies, followed by either 5 x standing long and triple jumps or multi-throws. These performances are very compatible. This workout, like 400 The Hard Way is extremely hard on the central nervous system.

4. 6 x 30 meter flies. Timed. Should have a 1 second differential with 30 meter block starts.

5. 2 x 300 meter flies at 95-100% with a 20-30 minute recovery. This is a great workout for modeling a meet. Like workout #2, the kids won't like you during or after the workout!

6. 9 x 90 meters at 90% with a 90 second recovery. The kids don't like it, but the feedback I get from them is very positive as far as results in meets. The workout really helps the finish of the race.

7. Contrast 30's. 4 x 30 meter flies, I tow them, they tow me, they fly a 30. We repeat the sequence 4 times. This is a great contrast training workout. Again, it'll toast the CNS. We use the ultra-speed pacer to tow with. When towing the athlete, tow no more than 10% of an increase from their maximum velocity. When they tow you, tow no more than a 10% decrease of their maximum velocity.

8. 4 block 30 and 4 fly 30's. You should have a 1 second differential in the block 30's and the fly 30's. Again, it doesn't seem like much but the workout is extremely hard on their nervous system.

9. *6 x 60 out of blocks. Time these. I use 60 meters, because I want them to complete the acceleration phase and transition into the next phase of their race. Your 60 meter block time should equal a 30 meter block + a 30 meter fly.*

10. *6 x 30 meter corner to straight away transitions. The athlete will run off the corner to the straight away. The athlete will hug the corner and then move to the middle of the lane as the corner meets the straight. The athletes will feel like they been sling-shot off the corner. They'll know when they do it correctly, because they'll feel that sling shot feeling.*

11. *6 relay attacks. Kids have a tendency to be very non-aggressive in the relay zone area. Have the athlete set up and tape the zones as if they were going to practice passing the baton. Place a cone 10 meters past the end of the passing zone. When the incoming runner comes in and hits the take-off mark, it's a race to the cone, between the outgoing and incoming runner. No baton is used. You want to see your incoming and outgoing runner be aggressive, just stand back and watch. This drill has had a huge impact on our relay passing.*

12. *60 second pool workout. (Pool workout from a non-heavenly place) You want to inspire kids to love running, put them through a few of 60 second pool workouts. The athlete swims in a 25 meter pool to one end. If they make it in 25 seconds, they get 35 seconds to rest. If they make it in 20 seconds, they get 40 to rest. Their total swim and rest time is 60 seconds. On completion of doing 30 minutes total, we exit the pool and work on dynamic mobility work. They will really increase their dynamic mobility big time after a pool workout. You'll see immediate hip flexor mobility improvement.*

13. *Vince Anderson 300 hurdle touchdowns. (Named after a good friend and sprint coach at University of Tennessee) Move your first hurdle in 3 of your feet, the second one in 6 of your feet and so on. This will give you accurate touchdown times that they'll need for the meet. Meet adrenaline will make up for moving the hurdles in closer in practice.*

14. *300 hurdle rhythm drills. Your athletes needs hurdle work, so what do you do? Set the hurdles up at 12.5m and have them 5 step them. It's the same rhythm they have when the run the 300 hurdles in a meet. You can get in more hurdle reps and accomplish the goal of teaching rhythm to your 300 hurdlers.*

15. *6-15 hurdles set up somewhere between 6.0 to 8.2 x 4 to 6 times. The hurdles are moved in and lowered one rung. I've seen too many coaches set up the hurdles at normal hurdle distance and height and develop a season long habit of bad hurdle technique. We begin at 6.0 meters in practice and move out toward 8.2 meters in May. The hurdles in practice are always down one rung.*

16. *Water polo. This creates a fun, yet competitive way for the kids to workout hard in the pool. It's a great spring break activity.*

Variety is very important. Kids will want to know why they are doing the workouts. Like I always say, "They don't want to know what, they want to know why!"

Any workout under 60 meters at maximum velocity, will be followed with another maximum velocity no sooner than 48 to 72 hours. I'd rest on the side of 72 hours with high school kids. Doing your relay work the day before the meet will deaden the legs of your athletes on meet days. Move your relay, block and fly 30 work to Mondays. By Thursday, the legs will be recovered.