

3 Laws of Speed Development Latif Thomas CSCS, USATF Level II (Sprints, Hurdles, Relays)

The **First** Law of Speed Development: [Speed is a Skill](#)

The dividing line between ‘good’ and ‘bad’ (if you believe in such concepts) coaches starts with understanding that running fast requires developing technical skill in your athletes, regardless of the sport.



Ignore, neglect or dismiss this Law and your athletes have already lost.

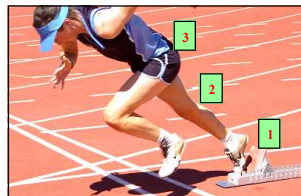
Running fast requires significant degrees of coordination, consistency and deliberate repetition. Because most athletes have never been taught the specific qualities inherent in the fastest athletes, they need the skilled and watchful eye of a coach in order to make consistent improvements and/or experience consistent success.

Think about how many steps your athletes have taken in their lives during practice and competition. If they’ve never been taught the Skill of Running Fast, every step they’ve taken has further ingrained bad habits into their neuromuscular system. As coaches, our responsibility is to teach athletes to unlearn these bad habits and replace them with specific skill.

Acceleration is the **most important** component of running fast. If we can’t accelerate properly, we’ll never actually hit top speed. For sprinters, this would be the Kiss of Death. For field/court sport athletes, the problem is the same, it just manifests earlier in the competitive environment.

But for today’s purposes, let’s look at **acceleration**. Here are 8 specific skills athletes must be able to successfully and consistently execute *before* they reach top speed. For sub-collegiate athletes, top speed will be reached somewhere between 20-30m. This means athletes must be able to coordinate the following within 3-4 seconds:

1. Drive the lead arm
2. Drive out at a 45 degree angle
3. Take a big first step
4. Triple extension before first contact
5. Drive the arms/hands down and back
6. Push the ground back and away (foot strike below or behind the hips)
7. Low heel recovery for the first 6-8 steps
8. Let the upper body unfold naturally



As coaches, the above list should be common knowledge to us. If we don’t already have a system for introducing, teaching, cueing, correcting and adding to this list, then we are not doing a sufficient job of coaching our athletes. It’s just that simple.

The **Second** Law of Speed Development: [Run a ‘Short to Long’ Program](#)

This is where the inefficacy of ‘fly 40s’ during the first week of practice comes into full light. A ‘Fly 40’ (or any ‘fly’ run) is considered a top speed exercise. If you’re unfamiliar with what a ‘fly’ run is, here is a quick description.

A cone is set up at the starting line (0m), 25m, 65m and 95m. The athlete sprints to the first cone using the skills they are learning under the umbrella of the First Law of Speed Development. Once the athlete reaches top speed (25m) they should be fully transitioned to top speed mechanics and effort (a topic for another day). They (attempt to) maintain top speed mechanics during the ‘fly’ portion of the run (25m – 65m) which is where the term ‘fly 40’ comes into play. At 65m they shut it down, coming to a full stop **NOT** before they reach the 95m cone.

Here’s the problem: The purpose of the ‘fly’ run is to focus on the 25m-65m portion of the repetition, i.e. teach/cue holding top speed and slowing the rate of deceleration that begins roughly one second after reaching top speed (25m).

If this type of workout is done during the first few weeks of the season, it becomes the ultimate example of putting the cart before the horse. Because the coach has ignored the First Law, athletes have not developed the appropriate Skill of Acceleration. Therefore, their ability to accelerate is wildly inconsistent and inefficient. They’ll never reach their potential top speed at 25m, so having them try to maintain and develop the Skill of Maximum Velocity *before* acquiring the Skill of Acceleration is simply impossible.

Such a practice is the coaching equivalent of sending a kid to college before they start high school. It's a recipe for disaster, or, at the very least, a recipe for a mediocre program.

A 'fly 40' with a 25m buildup is a run of 65m total. Your athletes can't sprint for 65m, with an appropriate degree of Skill, before they've learned how to run properly for 55m. They can't sprint for 55m before they've learned to correctly sprint for 45m. They can't sprint for 45m before they've learned to correctly sprint for 35m. They can't sprint for 45m before they've learned to correctly sprint for 25m.

To the educated coach, this is common sense. A student doesn't have the knowledge base to complete their senior year of college if they never completed their junior year. They don't have the knowledge base to complete their junior year of college if they never completed their sophomore year. And so on back to the beginning where fundamentals are taught. **Generalization before specialization.**

This is why the Second Law of Speed Development is the 'short to long' program.

My athletes start out running 20m accelerations. Once they show proficiency at 20m, we go to 30m. Display proficiency and we go to 40m. Now that we're running reps at distances putting us at top speed, we introduce fly runs using the same principle as with acceleration development.

First we do 'fly 10s'. Once athletes develop top speed proficiency doing a 'fly 10', we go to 'fly 20s'. Once athletes develop top speed proficiency doing a 'fly 20', we go to 'fly 30s'.

This is the structure of the 'short to long' program and it is the most effective method for teaching and developing the Skill of Sprinting.

The Third Law of Speed Development: [Speed Work IS the Workout](#)



You can't get fast if you practice running slow just like you can't get better at chess by playing checkers.

So, if the goal of training is to get faster, you have to look at your quality work/high intensity work as the workout. Most training is based on an endurance model which is why most coaches default method of training is distance work and submaximal interval work.

In terms of developing speed, submaximal (less than 90% intensity) training is designed to supplement and aid in recovering from full speed training so that you can.....

.... do more full speed training!

So when designing training (especially for true speed/power sports like football and track sprinters) you must focus your intentions on your speed/power workouts and use submaximal training (aka 'conditioning') as a training modality whose purpose is to build the qualities which allow your athletes to do a higher volume of high intensity training.

The fatal flaw in most coaching/sports programs is that coaches do the exact opposite. They focus on running and increasing the volume of repeat 100s/150s/200s, etc. which only trains athletes to be good at running slow. Great news if you're training athletes for a 5k, but otherwise not so much.

If you really want to develop faster athletes, spend your time addressing the speed, strength and power qualities which serve as the foundation of faster times, and not the general training, low intensity work that is indirectly responsible for getting results.

These are the 3 Laws of Speed Development.
Make them the foundation of your speed training and you can't go wrong.



50 repeats forms a habit
Thousands of improved repeats
to change the habit
So, what's the message?
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