

The “7-Second” Start

A Distance Runner’s Secret Weapon

Coaches of cross country and distance track athletes are always on the lookout for a secret advantage, a ‘magic bullet’, or the mystical workout or training key that will transform their average runner into the next leader in the Region, County, or State. That special key is easy to obtain. All that is needed is a basic understanding of the energy systems used at the start of a distance race and a desire to maximize the racing potential of those systems.

In the simplest form, a high school distance athlete is processing oxygen at a high rate and trying to limit the production of lactic acid (which slows performance). Many things factor into the equation of how efficient an athlete will be . . . training, speedwork, hydration, diet, rest, and other elements. The efficiency of oxygen processing is critical to the long-term success of an athlete in distance races, but ultimately the athlete who can maintain the highest velocity over the longest period will win the race.

Runners can perform in the aerobic and anaerobic performance ranges. Anaerobic running produces large quantities of lactic acid, can only be maintained for a short period, yet is the highest velocity attainable for a runner. This might be compared to a “fight or flight” reaction . . . the short burst of speed that all humans possess that allows them to accelerate quickly away from trouble. Aerobic running is the antithesis of anaerobic . . . it is easily maintained for a long time but is a slower velocity. Training affects this realm of running allowing a coach to develop a runner with a higher average aerobic velocity, but that is not the “secret”. The “secret” rests in the anaerobic phase of running . . . primarily in the start of any race.

Athletes possess approximately 30-45 seconds of high velocity anaerobic ability at the start of any endurance race, however this time total will exhaust a runner and produce excess lactic acid requiring the athlete to stop.. Since distance races have a longer duration, requiring an athlete to burst out in a lead for anything near that length of time will lead to failure, but every athlete is able to maintain an anaerobic pace for a shorter time, building up a non-critical amount of lactic acid that will actually be cleared from the system while running. This is the critical understanding of the “7-Second Start”. In any distance race, all athletes should be instructed to *accelerate to top speed and hold this for 7 seconds right from the gun.*

Holding 7 seconds of hard acceleration after the clock starts will serve to minimize overall race time and maximize average velocity, even if this percentage of the race is small. The fatigue level of the fast burst is minimal and always presumes a proper warm-up. 7 seconds is a good average . . . some high school runners can maintain 12 seconds of hard acceleration at the start, but for some

runners this may be too close to a fatigue level resulting in failure, so a 7-second limitation for all athletes is safe and productive.

Training and racing uses both energy systems. It is impossible to draw upon one physiological system in the body to the exclusion of the other. When you train or race will use both systems to some extent regardless of how fast you run or how far. The 7-second anaerobic reserve you tap into during the first moments of the race can be used to your advantage with a fast start, or it will dwindle away slowly in the first mile of a race, to no advantage at all. It is to the benefit of the athletes to increase velocity during the first 7 seconds of the race, back off into a relaxed mode, then continue a race plan rather than start slowly, keeping average velocity lower while gradually losing any fast-start advantage. The energy used in the 7-Second Start *will* be used . . . it is just up to the athlete and coach to determine if it is used to a benefit or wasted away over time with no benefit.

There are other advantages to using a fast start in a distance race. In all group starts, the 7-Second Start gets the runner out in front and away from elbows, spikes, and pushing that inevitably happens in all mass starts. The start also puts the competitor in a position of dictating pace of the pack and controlling the beginning of the race. Lastly, the fast start denies others the racing initiative and forces them to react rather than follow their own race plans.

As you watch every major distance race from the NCAA levels through the Olympics, the only tactic that is universal is the one that high school athletes rarely use . . . the 7-Second Start. Older athletes recognize the importance and have coaches familiar with physiological studies that demonstrate its effectiveness. As a high school coach, you can equip your distance runner to the same degree by making them familiar with the “7-Second Start”.

The “7-Second Start” will:

- Increase average velocity of the race and lower racing times.
- Get your athlete away from flying elbows, spikes, and mass-start hazards.
- Allow them to dictate starting pace.
- Take your opponents out of their game plan.
- Have no performance detriment.

Enjoy your new advantage and another key to distance racing success!