Many coaches believe that athletes are born ‘God-given’ SPEED and nothing can be done to change it. As a coach with over twenty years of experience at the high school, junior college and university levels, I disagree with this statement. To the contrary, I have found anything is possible with an athlete who has above average talent and who is willing to,

- Train hard
- Focus on the right things - doing all of the little things before the workout –such as, correct warm-up and cool-down procedures, proper daily nutrition and hydration, apply good sleeping habits and additional flexibility work.

One example of this theory is the 100 Meter World Record Holder, Tim Montgomery (9.78). In the Spring of 1993, I met and persuaded Tim to sign a scholarship to run for the junior college program at Blinn Junior College in Brenham, Texas. At the time Tim was a very thin high school sprinter from Gafney, South Carolina. As a high school senior, with a mere (electronic timed) 100 meter best of 10.61 (FAT), Montgomery, was not ranked as one of the nation’s ‘Top 25 High School Sprinters’. His high school track team was so small they did not have four guys to make up a 400 meter relay team, so Tim did not have the opportunity to participate in a 400 meter relay team or learn the skills involved in that event.

When Montgomery arrived at Blinn College in the fall of 1993 he was 5’-10” tall and weighed 128 pounds. He definitely did not fit the definition of a typical high school sprinter or typically what we look for when we recruit. What Montgomery did have was a great family support mechanism and a super attitude. Montgomery came to Brenham, Texas with the hunger to be the best he could be. Along with his positive attitude, he brought with him great daily work habits.

Tim had the right attitude, he trained hard and focused on the right things. First, he focused and trained to improve his overall body strength, basic flexibility, and running technique thru many hours of dynamic flexibility drills, hurdle-rhythm drills and speed drills and the results began to show. Early in the spring of 1994, at the Sun Angel Classic at Arizona State University, Tim Montgomery ran an outstanding 20.1 lead-off leg on our 800 meter relay. That time beat a number of collegiate powers such as L.S.U., U.S.C and U.C.L. A. and several world class track clubs. Later that same spring in May at the National Junior College Track Championships in Odessa, Texas, Montgomery bested Nigerian World Class Sprinter, Daniel Effiong for the 100 meter championship with a time of 9.96 seconds. At the time Montgomery’s time was thought to be a new World Junior Record. The existing record was 10.07 seconds and had been set by a former athlete of mine, Andre Cason, who I recruited when I was at Texas A&M University in 1987. Cason, like Montgomery, was another example of an athlete who in the beginning did not fit the “sprinter mold”. At the time one of my fellow assistant coaches felt that at 5’5” Cason was too short to ever become an “elite” sprinter and questioned my recruiting him. Cason, like Montgomery, defied the odds as he later became an NCAA 60 meter indoor Champion and the Silver medalist in the 100 meters at the 1993 World Championships with a time of 9.92.

Unfortunately, I.A.A.F. (governing body of track) rules nullified Montgomery’s achievement later that month. The I.A.A.F. world record procedure requires that the track must be measured with
a ‘steel tape’. Later in May when the track was measured, it showed that the track in Radcliff Stadium in Odessa, Texas was 2 inches short thus nullifying Montgomery’s world junior record.

Logically however, if we added .01 or .02 to Montgomery 9.96 time to account for the 2 inches the track was short Tim’s time would have been vastly superior to the previous world junior record of 10.07. However, not all things are as easy as they should be and the I.A.A.F. the governing body of track and field ruling stood. Later, Track & Field News officially converted Tim’s mark to 9.97 seconds. Regardless of the ruling, since that day in May to this, I always refer to Tim as “SLIM FAST”! At 5’10” this128 pound athlete proved that you don’t have to be a big, thick, muscle-bound athlete bench pressing 300 pounds to run fast sprint times.

As I coach, I have been blessed to have been able to recruit good athletes like Tim and Andre who were willing to work hard on and off the track to become “elite” athletes. Presently I have recruited and/or coached,

- 8 athletes who have run under 10.16 seconds for the 100 meters
- 6 athletes who have run under 20.47 for the 200 meters
- 5 athletes that have run under 45.02 for the 400 meters

In addition, I have also coached relay teams that have run:

<table>
<thead>
<tr>
<th>Relay Type</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 Meter Relay</td>
<td>38.97</td>
</tr>
<tr>
<td>800 Meter Relay</td>
<td>1:21.45</td>
</tr>
<tr>
<td>1600 Meter Relay</td>
<td>3:01.89</td>
</tr>
<tr>
<td>Sprint Medley Relay</td>
<td>3:12.13</td>
</tr>
</tbody>
</table>

But speed isn’t just for track anymore…how many of you feel SPEED is a very important ingredient to the success of your sport?

If you agree it’s important, what are you doing on a regular basis to prepare your athletes to become faster?

When it comes to an athlete’s SPEED, I believe it starts from the ground up. First, for the athlete to excel in speed Development, he or she must first learn to use “Dorsi-Flexion” with the foot. Most young athletes use “Plantar Flexion”. Plantar Flexion is BAD, because this downward pointing of the toe causes a breaking effect upon contact with the ground. This is similar to putting on the brakes in a moving car. Plantar Flexion keeps the athlete’s foot on the ground maximizing ground time which translates into slower sprint performances. This braking effect also puts a lot of strain on the ankle, shin, and, most of all, the hamstring muscles. I believe Plantar Flexion is the number one cause for athletes getting “SHIN SPLINTS”.

Dorsi-Flexion is keeping the toe and heel up while running. The runner is literally stretching the calf muscle while running. When running, the athlete pulls the heel through to the “buttocks” and then places it on the ground under the knee. When the athlete’s foot lands on the track surface or ground, the foot is then cycled backwards or pulled up to the buttocks. At this point the foot is then brought back down to the ground with again the (toe up) as it makes contact with the ground underneath the knee. A common mistake made by coaches is telling their athletes to take 'longer strides’. Over-striding causes a breaking effect as the athlete often lands on his heel. The athlete also will lose power.

How does the use of Dorsi-Flexion make an athlete faster and why is it better than Plantar Flexion? Dorsi-Flexion makes the athlete much more active upon contact with the track and
also allows the athlete to “get-off” the track surface quicker. Rome wasn’t built in a day and don’t expect your athlete to pick this new technique up overnight. His bad habit was years in the making and it will take him weeks to correct it, but once he learns Dorsi-Flexion, the athlete will be much more efficient in landing which minimizes ground time and air time which translates into faster sprint performances in any sport.

For the athlete to be able to run fast they must run on the balls of their feet at all times. This means landing on the “widest part” of the front of their foot each and every time. Athletes must also learn how to strengthen the tendons, ligaments and small muscle groups in the foot, ankle and below the knee if they are to be able to run on their toes. An athlete’s body cannot be supported unless these areas are strong. Good exercises to strengthen the feet are,
   - Bare-foot running
   - Sand-pit Plyometrics
   - Weight-training exercises focusing below the knee
If an athlete attempts to land and push off with their heel, they will never master SPEED. Remember! Unless you plan on running a marathon nothing good happens on your heel!

For an athlete to be able to maximize 100 % of his leg power capabilities, the athlete must run “Hips Tall” over his hips at all times and keep all parts of his body near or under the “center of mass” at all times. I often see many young athletes shrink 3-6 inches while running because they are over rotating at the hips. This causes a loss of leg power and a 20-30% loss in true SPEED performance.

Proper arm action is important as well. The athlete must move the arms in a quick and efficient manner stopping his hand near the chin on the upward motion and at the hips on the downward motion. Remember! A short lever is a quick lever; a long lever is a slow lever. To run fast, the athlete must have a “PISTON” type arm motion to maximize their SPEED! Two key points you should take note of are:

1) The arms never cross the mid-point of the body.
Find the “mid-point” by drawing a line down the middle of your body to separate it into two equal parts. Crossing the mid-point with either the arms or the legs will cause slowing down of SPEED performance because of inefficiency of movement.

2) The elbows must be kept within 2-4 inches of the body at all times. If the arms are too far away from the body, this “Chicken Wing” movement will cause the athlete to lose maximum SPEED performance.

Last but certainly not least, is the posture for the upper body. The shoulders must be kept be kept low and relaxed at all times and the face and the jaw also must remain relaxed. The athlete’s head must remain in its normal position as if he were merely standing in place. If the athlete drops his head slightly when running, it hinders the ability for a nice high knee lift while running. By dropping the head, the athlete will now lower his center of mass which can have a domino effect on the rest of his body causing his performance level to decline. To help the athlete keep his head up, have him to raise his eyes and look forward 20-40 yards. Have him to focus on an object that is 6-8 feet above the track. Doing this insures that his head and hips remain tall throughout the race.

Successful sprint training is based on discipline and hard work. I always tell my athletes, “the meets are easy after what we do daily in practice!” Over a two or three day meet, an athlete might have to run 6-9 races. We design our training for multiple round races since our
conference and national championships are based on running at least 2-3 rounds for each race.

You do not have to have the “naturally” talented athlete to handle multiple races and win at the elite level. The winner is often someone who has talent, but more importantly is well-conditioned. I see many talented athletes each year never make it to the finals at major championship meets because without the proper conditioning base they often get hurt while attempting to run these multiple races.

Fall training program “Boot Camp” is without a doubt the key to our season’s success. It is often hot and the months seem very long, but it lays the foundation for what we do in the racing season. During this conditioning period of 10-12 weeks, our goal is to try to make each and everyone of our athletes, the best all-around athlete he can possibly be.

Twice during the fall, we test our athletes with a form of decathlon competition. We use scoring tables that measure the athlete’s basic speed, strength, and coordination. Our fall and preseason conditioning/training program is accomplished through endless amounts of drills and circuits such as:

- Dynamic Flexibility Drills
- Hurdle-Rhythm Drills
- Speed Drills
- Plyometric Circuits
- Medicine Ball Circuits
- Multiple Shot Throws
- Body Weight Circuits
- Resistance Training
- Weight Training Sessions
- Hill Training
- Over-speed Training

To illustrate these drills, I have also produced three products which show the drills listed above. These have proven to be very helpful to high school, and club coaches. The packages are:

- Speed Training Book/Video package
- Hurdle Book/Video package
- Relay Book/Video package

These products can be purchased thru Championship SSE Products at 1-800-644-6188.

By the use of drills on a daily basis, you can often correct poor running mechanics. Our warm-up usually lasts 30-45 minutes a day before we start the actual ‘times running’ workout. I have found that many of the international athletes that I have coached over the years, have an easier time learning the drills because they started doing sprint drills at a very young age – even as early as prior to high school. Unfortunately, many high school athletes have trouble mastering such sprint, flexibility, and coordination drills since they are starting to learn them later than the international athlete.

Even though very few of the athletes are actual hurdlers, we require all of the athletes do basic, A, B and C skips with both sides of their body 3-4 times a week over low hurdles to become more efficient. By doing this drill, they improve their running mechanics and gain valuable body coordination which eventually results in the athlete becoming faster. It also will aid in helping the athlete to stay injury free throughout the entire season.
After we have left our general base conditioning phase, the main emphasis is on the three speed energy systems for the basic training in the 100 and 200 meters. We now begin blending the following three speed energy systems into our daily regime of track and field training:

SPEED DEVELOPMENT TRAINING SYSTEMS
SPEED (50 METERS & Less)
SPEED “ I ” (Over 50 meters but Under 100 Meters)
SPEED ENDURANCE (100 Meters up to 300 Meters)

Every Monday is a new theme of speed training. We alternate from ‘Pure Speed Training’ in Week One to ‘Speed One’ in the second week and then to ‘Speed Endurance’ in the third week. We continue to rotate the three themes of sprint training weekly during the season.

Prior to the start of the workout each Monday I add a high quality 300 meter run or 350 meter run at the beginning of the workout, to ensure that these athletes will have enough speed endurance to aid in their 200 meter development and to also ensure that they will become fit enough to possibly lend a hand on the 1,600 meter relay. This 300 or 350 meter high quality run is followed by a good recovery of 10-15 minutes prior to the start of the workout. I have seen that the times for the two distances becomes faster and faster as we progress thru early season to mid-season to late season.

At the Monday speed training, I time the athlete’s run individually, one at a time against the clock using a 90-95% effort. I do this because running them against someone else at a high rate of speed could cause an athlete to strain during the workout. After the first interval I give them a 3 minute rest. After completing the set, they have a 8-10 minute break. The break insures that the second set will also be a quality effort at 90-95%. Listed below are several types of sample workouts involving the three types of Speed Training Systems:

MONDAY-Week #1
300 Meter Run (38-39 Seconds)
Recovery: 10-15 minutes OR as needed
3 x (40m, 40m, 40m) “SPEED” 90-95% “Timed”
3 minute rest between each 40
8-10 Minute rest between each set to ensure 90-95% effort

MONDAY-WEEK #2
350 Meter Run (44-46 seconds)
Recovery 10-15 minutes OR as needed
3 X (60m, 60m, 60m.) “SPEED I” 90-95% “TIMED
3 min rest between each 60
8-10 minute rest between each set to ensure 90-95% effort

MONDAY-WEEK #3
300 Meter Run (37-38) seconds
Recovery: 10-15 minutes OR as needed
2 x (100m, 110m, 120m) “SPEED ENDURANCE” 90-95% TIMED
3 minute rest between each
8-10 Minutes rest between each set to ensure 90-95% effort will continue

On Tuesday, following the high, intense Monday workout, we slow it down with slower tempo runs of 200, 250 or 300 meters at around 70-80 percent effort. Tuesday is also a great day to spend time doing relay hand-offs. Examples of Tuesday workouts would be:

**Tuesday-Week #1**
4 x 200 meters (70-80%)
400 Meter Relay Hand-offs

**Tuesday-Week #2**
300 meters (70-80%)
250 meters (70-80%)
200 meters (70-80%)
400 Meter Relay Hand-offs

**Tuesday-Week #3**
350 meters (70-80%)
300 meters (70-80%)
250 meters (70-80%)
200 meters (70-80%)
400 Meter Relay Hand-offs

I am also a firm believer in doing high quality “Flys” with a 20 meter running start into a sprint distance ranging from 50 meters to 100 meters. FLYS need to be done one person at a time at a rate of 90-95% effort. “Fast but relaxed”, is the key to running fly’s. Studies have shown that when athletes are training at these high levels of speed their body will produces a higher rate of “natural testosterone.” This makes them a stronger and faster athlete on meet day.

I am also a strong believer in using the “Ultra Speed Pacer” which is an ‘over-speed’ training device. The ‘Ultra Speed Pacer’, enables the athlete to further stimulate his fast twitch muscle fibers and improve neuromuscular pathways to improve his or her performance. This device has allowed my athletes to increase their stride rate and stride length and can be used to pull an athlete up to 100 meters. I have pulled my sprinters 4 x 100 meters in a single workout. One of my former athletes, Henry Neal (10.07) ran a hand time 8.9 - 100 meters with this training device. I have also used this device with my 400 meter runners in which they would do 6-8 of these. Their times in a workout averaged around 10.0 seconds. The ‘Ultra Speed Pacer’ is a great device to trick the body’s fast twitch fibers into doing something they are not suppose to do!

I am also providing you some sample week’s workouts for early, mid and late seasons.

Hopefully this material can help you to raise the level of sprinting with your young athletes.