

Speed Development

By Kent Pegg

Speed is a critical component of most sports. Basketball, football, soccer, track and many other activities require explosive speed if an athlete is to be successful.

While speed is, in part, determined by a person's genetic makeup and percentage of fast twitch muscle fibers, it can still be improved through a proper understanding of the mechanics of the stride and the training necessary to develop the correct muscles.

Speed is defined as a person's stride frequency times their stride length. An increase in either of these components will result in greater speed.

The sprinting action is, for the most part, a process of falling forward and recovering. The greater a person's technique, the more efficient their recovery will be and the faster they will be able to run.

The sprinting action can be broken down into two phases: the drive phase and the recovery phase.

During the drive phase, the foot applies force to the ground in an effort to accelerate the body's center of gravity forward.

The quadriceps and the glutes, both muscle groups designed to push the body, provide the power during the drive phase. Calf and hamstring muscles act as secondary, assisting muscles during this phase.

Ab and lower back muscles are also critical during the drive phase. They allow a runner to "run tall", without excessive forward lean, and provide a proper postural position.

The recovery phase is the portion of the stride when the foot is not in contact with the ground. The runner's heel comes toward their butt and then the hip flexors pull the leg forward.

Relaxed and loose quadriceps will allow the recovery leg to move forward with greater velocity.

While the lower body is moving through the drive and recovery phases, the motion of the upper body is critical as well.

The elbows should be bent at approximately ninety degrees and the hands should be slightly open. When coming forward, the hands should reach shoulder height and when back should reach just behind the hip.

Good upper body strength is necessary to prevent a change in the body's center of mass. Additionally, proper strength allows a person to run in a relaxed manner without tightening the upper torso.

You should seek equal and proportional development of all upper body muscles including the chest, back, shoulders, biceps, and triceps.

For your legs, focus on explosive movements while strength training. Squats, lunges, leg extensions, leg curls, hip flexions, and calf raises should all be performed with moderate to heavy weights.

Flexibility is another key to increasing your speed. Both stride frequency and stride length will improve with an increase in flexibility. Focus on year round stretching and consider taking a yoga class.

Remember, speed is most likely a critical component of your chosen sport or activity. Understand the mechanics of your stride and work to increase your strength and you'll surely see the results on the field.

REMINDER:

This week, local activity and fitness centers are participating in a "Transferable Pass Promotion".

Through Saturday, July 24th, any current member of the Golf Course, Aquatic Center, Ice Rink, Los Alamos Fitness Center, Curves, Family YMCA, or Transformations can utilize the facilities at the other centers free of charge. You can also bring a friend who can work out for free too.

This is a great opportunity to check out a variety of fitness facilities at no cost and with no obligation. Take advantage and get out and try something new!

NOTE:

At the time of this writing, the LANL Wellness Center is temporarily shut down. Until the Wellness Center is reopened, the members of the Los Alamos County Fire Department are welcome to work out at the Los Alamos Fitness Center free of charge.

Kent Pegg is a certified personal trainer and the co-owner of the Los Alamos Fitness Center. If you have any questions about the information in this article you can call him at 662-5232.