

Kevin McNair's

# Speed System

**Speed is a skill...it can be taught**

## Philosophy of Speed

- No such thing as being fast or slow...it's a matter of degrees of speed
- Speed can be developed...and it's developed through a way of thinking
  1. Foot Plant
  2. Posture
  3. Eye Focus
  4. Hip Rotation

**The way that you think...determines the way that you're going to move**

## Myths of Speed

- You are born with speed
- faster arms result in speed
- higher knee lift results in speed
- faster knees result in speed
- faster, shorter steps at the beginning of a burst of a 40yd sprint results in speed

These myths are myths because they are only concerned with the *recovery aspect* of speed.

## **SPEED** ATHLETIC STRENGTH AND POWER

defined: a series of falls and recoveries. The person who falls the fastest and recovers the fastest....runs the fastest!

There are two phases:

1. **The Falling (Drive) Phase:** because of leg drive and the arm going back
2. **The Recovery Phase:** this is what is seen in the front...with the knee and the hand lifting. Too many athletes and coaches concentrate on the *Recovery Phase*. They are aware of the Drive Phase. However, their real emphasis is on the *Recovery phase*. Why? Because one can see it. So, the deception is... is that the

more frequent the hand and knee lifts... the faster one is deceived into thinking that they are running. And, in actuality, one just has quicker movements that are visible.

## Speed is *only* what you feel...and cannot see.

1. The foot hitting the ground
2. The foot staying with the ground as long as possible it's putting more force into the ground. And, therefore, you go from extension... to hyperextension of the knee. The arm drives backward to it's fullest range of motion. The arm then locks at the back. **And now you have maximal force going down and back... and that's what speed is!**
3. Speed is patience and prolonging backward force. The athletes who pull into the knee lift too soon, are not allowing hyperextension of the knee...leaving the knee still bent...and because they are in a hurry to continue their deception of speed, they pull out of leg drive prematurely and therefore they do not get their greatest potential stride length.

**Stride Length** is maximizing the leg drive **Falling Phase**. Stride length should be viewed as take-off and landing: The leg hits and stays back as long as it can and... there is a subsequent take-off and another landing. Maximize Hyperextension. Staying with the ground for as long as possible.

## The Vertical and Horizontal Components of Running

If the body has a horizontal and vertical component, then so do the parts of the body. The eyes, the chin, the shoulder, the elbow, the forearm, the hand, the hip, the thigh, the knee, the ankle and the foot. To maximize speed, we have to diminish the vertical. You can't eliminate it...there will always be a degree of that. But you can diminish the vertical and maximize the horizontal.

There are two types of runners who do *not* improve.

1. One, the guy who says... "I've got speed... I don't need to change my style". He categorizes himself and does not change.
2. On the other hand, the other runner categorizes himself... "I'm slow, I'm a 5.6 Forty...I'll always be a 5.6.

Categorization must be eliminated to improve.

## McNair Speed System

**19 Techniques.** The runner isolates a technique and thinks only about that particular sequence.... say **Eye Focus**, he learns it at half speed...then he moves it along to 3/4ths speed and soon after full speed. then, the runner works on the next technique.

And rather than worrying about what the watch says, or where an opponent is in relation to you, .....you don't worry about the conclusion, you worry about the process toward the conclusion. Hence, the process takes care of itself.

Drills? there no better drill than doing the whole action and concentrating on one technique. That's the key to learning speed and changing motor movements. Quick feet drills... jump ropes... fine. Run some hills once per week over a short distance of 30 yards on a gradual incline. But, you will only get faster through pure assimilation. Do the running techniques in at  $\frac{1}{2}$ . learn it..  $\frac{3}{4}$  .... learn it....and then full. Do the running in sets... just like in lifting. For example, you rone a set oif five reps, high quality, anything from 20yds to 70 yds. Think one technique...walk back. then another run, until the set of five is completes. Take a three minute recovery and come back and run another set. If you feel your speed dropping off, *stop* running...because then you are not practicing speed.

- Speed is specific. If during the workout, you feel your speed dropping off.. then it is becoming detrimental to speed.

### **Speed Development Through Upper Body Alignment and Positioning**

develop and rely on a word word speed vocabulary. As you hear the particular word... you alter and adjust accordingly.

Starting from the top and working down to the waist, we have to remember that the head is the heaviest part of the body...where the head goes...the body goes. And the eye focus controls the head position. In order to minimize the vertical component and eliminate the body lean, you have to control the head through the eyes. This means that you have to look straight through, as if you're looking somebody in the eye who is your height. this gives you visual control which controls the head tilt. Run with a "conversational plane"...as if you're looking someone in the eye whom you're speaking.

Key Word: **FOCUS.**

The vertical components that occurs through the shoulder is critical to maximizing the horizontal running movement. When you have a 90 degree angle at the elbow... for **angular velocity**, the fist must come down in a downward arc...through the pocket...past the butt area. If the fist moves to the hip position, (you can put your hand and your shoulder and you'll feel your shoulder elevate) which puts a bounce into the run. When the fist moves down to the pocket, keeping the same 90 degree angle, the shoulder drops. In other words, the angle control of the downward arc through the pocket, past the butt eliminates the vertical component of the shoulder...thus putting too much of a bounce into your run. So the range of the motion of the arms can only go as high as the chest, and that the fist moves down pst the butt for full range. most people

stop at the hip. And if you stop at the hip....you eliminate hyper-extension at the knee  
**Downward..Violent...Angular Force..** through the pocket (not just to the hip) past the butt.

\*Even positioning of the knuckles is critical. All together, it's referred to as the "**Hammer Technique**". Imagine a wall that is behind you. There is a nail sticking out of the wall. When running, when your hand comes down through the space, through the pocket and back past the butt....you "belt" it back against that wall...as if you have a hammer in your hand driving the nail into the wall.

The semantics are important. It's not smooth...it's aggressive. Smash the nail into the wall with that violent aggressive action.

Anytime the arms move away from the body, you have rotational forces that end up going right & left" In order to keep everything coerced into the middle...centralized and forced straight ahead, you have to **SQUEEZE**. Squeeze in...fixed angle and with a solid hammer.

Rotation of Arm Action

The Palm. If the palm turns down, the the forearm turns down...what happens on the left palm and forearm turning affects the right leg action and likewise on the opposite side.

Thus, rotational forces are going to the right and left...as opposed to contributing to straight ahead speed. Run with the palm pointed toward the belly button. Thumb on forefinger and control it. Hand Cupped.

Arm action is really shoulder action through the anterior and posterior deltoid. So swing at the shoulder. Running by just moving at the forearm is not enough mass to pull the leg through. **ROTATE**

Speed is Angular velocity. Be sure to **fix** or keep that 90 degree angle. If you close that angle at the elbow with the fist up, you'll go up. Likewise, if you open the angle at the elbows and straighten the arms, it will slow down your recovery action. So Fix the angle and shoulder rotation. Not the forearm...but the larger shoulder muscle girdle area that is doing all of the rotation.

## The Arches

Being that there is no running lean...and no such thing as running lean at top speed, there is a positioning of the upper and lower back which affects the position of the spine and the foot plant as you hyper-extend. There are two arches in the back.

1. The shoulder blades arch slightly together
2. and, the lower back arching slightly

No leaning backwards...as soon as the shoulder blades move away from the center of the spine and you hunch over, the hips go back you now have a running lean and hence you are now *losing* speed.

## Stride Length

Foot Plant. Stride length is *not* created with a fore leg reach. Stride length *is* created by what you do *down* and *back*. Foot plant needs to be underneath the hip. Not ahead of the hip. The foot path is down and back under the hip. Through this method, all of the force comes up and drives through your body as opposed to you having your weight back pulling yourself over that foot. Therefore, there is no such thing as foreleg reach for stride length. Pull the foot down and back, stay with the ground long, maximizing the full range behind you....thus you have the force going down and back and that's what allows you to run with speed.

## Ankle Flexion

Too many runners, because of the impatience to get their foot to the ground---they pull the leg through and forward and they end up getting active with the foot. They actually flex the foot upwards and they end up hitting the ground flat.

So therefore, relax the foreleg and the foot will naturally “know” what to do. The ball of the foot will hang toward the ground when you have a relaxed foreleg. This leaves you in a position to strike high on the foot. You don't run on your toes...you run across the metatarsal arch. And, if you stay relaxed and “inactive” from the knee down, your foot plant will be ‘on”. If you get impatient and hurry for the ground- by reaching with the foreleg- or flexing the foot to the sky, you're SLOW. Run with a **HANG**...leave the foot inactive and relax it. Push down and back with hip.

## Knee Punch

Stay with the ground and then when you are going to pull that knee forward, pull it through in a horizontal manner and the power from the ground will carry it all the way up. So, what the runner gets from this outward knee '**PUNCH**', is an inch...the knee will go out and the hip will rotate... allowing you to cover more ground....regardless of whether you're down, halfway up or all the way up.

## Burst

When we speak in terms of burst, we're talking about moving on angles or straight ahead. The best technique for getting an initial burst of speed is an *outward knee punch...not an upward one*. If the knee lifts up, you go up. If the knee punches out, it will give you a horizontal burst out of any angle and any direction within the game. So, the knee will automatically pop up because of a good solid **snap** on the ground. So punch your knee toward the endzone (or intended direction) when you're doing your practice runs.

As a result of these techniques...even as a result of just one of these techniques, your start will be faster when you are low. Your change of direction will be faster...Your burst will be faster once you get moving. Your closing speed at the end can be faster. And

your consistency should be . Are you as fast late 4th quarter as you were early 4th quarter?

### *Upper Body Speed Vocabulary*

- **Pinch** - Serves as a way to control rotational force of arm action which hinders straight ahead speed. The actions of the right arm affects the left leg and the actions of the left arm affects the right leg. For every action, there is an opposite and equal reaction. Run with the palms toward the belly button and control the hand by placing the thumb against the forefinger while keeping the hand like a fist.
- **FOCUS-** Keep the eyes on the horizontal plane....imagine a conversation taking place while you are speaking with someone your own height. Avoid tilting the head up or down. A downward head tilt causes the body to lean due to the weight of the head.
- **FIX -** Maintain a constant arm angle of 90 degrees
- **ROTATE-** Swing the arm through the shoulder area. Remember to keep the arms fixated at 90 degrees through the entire motion
- **LOW-** Aggressively bring the fist "through the pocket" ...below the hip and past the butt "pocket"
- **PULL -** make a violent pull, backward with the arm movement, from chest height back to the butt. The further that the arm is pulled back...the greater the leg extension will be...which is one of the keys!
- **Lockout-** The freeze position of the upper arm with the shoulder going down and through the back pocket.
- **CHOKE-** The forward swing of the fists stops at sternum level
- **CRACKDOWN-** Hands and knuckles will point downward quickly as if cracking a whip.
- **HAMMER-** Aggressive arm swing at the shoulder. Point the knuckles toward the ground and extend the wrist. Imagine that you have a hammer in your hand and that you are forcefully driving a nail into the wall behind you.
- **SQUEEZE -** Keep the arms close to the torso, and avoid creating a space between the arms and the upper body.

- **ARCH-** Pinch the shoulder blades together...the shoulders will be brought back slightly. Move the hips forward and curve the lower back slightly. This arching will flatten the spine and thus places the gluteal muscles in a position to maximize the leg drive.

