

Speed Training

SUBMITTED BY:

The Play Book

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SPEED TRAINING

Speed is the body's ability to go from point A to point B in the shortest time

KEYS TO SPEED:

- 1. Stride Length**
- 2. Stride Frequency**

Speed is a critical component of the game of football. Football players must react to certain stimulus, accelerate to maximum speed, change directions, decelerate, reaccelerate, and maintain maximum speed.

Football is a game of short explosive bursts lasting on an average of 5 seconds. Players also need to readjust in space, redirect to a different stimulus, and at different. This is football speed.

PHASES OF SPEED

- 1. Starts(Reaction):** The ability to respond to certain stimulus and to get the body moving from a pre-snap position or on the run.
- 2. Acceleration:** The ability to reach maximum speed as fast as possible. 40% of maximum velocity is achieved in 5 yards. 75% is achieved in 1st 10 yards, and 90% within 25 – 30 yards
- 3. Maximum Speed:** Maximum speed is achieved 40-60 yards.
- 4. Speed Endurance:** The ability to maintain true speed over a period of time. 1st quarter to 4th quarter.

TRAINING VARIABLES THAT AFFECT SPEED IMPROVEMENT

1. **STRENGTH** – improvement in strength will help improve force capability. Arm drill, knee drive and starts will all be improved.
2. **FLEXIBILITY**- increases in flexibility will help to improve the stride length and help to prevent injuries
3. **POWER**-increases in power will help develop the start and the acceleration
4. **CONDITIONING**-increases in anaerobic conditioning will help the speed endurance phase

5. SPEED PROGRAM

- A. General Warm-up/Static Flexibility
- B. Dynamic Flexibility
- C. Speed Improvement Drills/Technique
- D. Phase Workout
 1. Starts
 2. Acceleration
 3. Maximum Speed
 4. Speed Endurance

A. GENERAL WARM-UP/FLEXIBILITY

The body must be properly warmed-up before high intense exercise is performed. Light jogging, easy movement runs, (carioca, back pedal, etc.) Static flexibility exercises should be performed after the body's core temperature is elevated.

SEE STATIC FLEXIBILITY SECTION

B. DYNAMIC FLEXIBILITY

These exercises are to be performed before the speed workout. These drills are designed to promote flexibility.

DESCRIPTION OF DRILLS

- 1. WALKING KNEES TO CHEST:** Standing in an upright position walking forward, pull the knee up to the chest. Alternate each leg.
- 2. WALKING LUNGES:** Step out with the right foot and bend right leg until parallel to the ground. Drive off the front leg back to the starting position. Alternate to the other leg while walking. Do not let the knee move over the foot.
- 3. WALKING STRAIGHT LEG RAISE:** Walk forward keeping toes and leg extended in front of the body. Try and touch the opposite hand, Alternate each leg.
- 4. SIDE LUNGES:** Moving laterally reach out with the lower leg until it is straight. Once the leg is straight pull the body toward the extended leg.
- 5. LEG SWINGS:** Stand parallel to a wall or your partner so you can swing the legs freely front to back. Drive the straight leg as high as possible and back without hyperextending the low back. Control this motion and perform the prescribed reps. Also perform the leg swings from side to side.
- 6. HIP ABDUCTION:** Lie on your side with the legs straight and the body in line. Drive the top leg away from the ground as high as possible, then return. Repeat with the other leg.
- 7. KNEE TO CHEST/ EXTEND:** Lie on your back with legs fully extended. Bring the right knee towards chest, then extend the lower leg. Drive the straight leg down towards the ground.
- 8. BUTT KICKS:** Maintain good running posture with hands on hips. Alternating swing of the heel of each foot back towards the butt. Action is quick and smooth.
- 9. HIGH KNEE CROSSOVERS:** Moving laterally drive same leg up and over the opposite leg. Maintain same leg for required distance.
- 10. QUICK PACE RUNS:** Short quick pace running, avoid plodding feet into the ground, stay loose and keep feet moving quickly.
- 11. QUICK SHUFFLE:** Moving laterally take short quick steps with both feet keeping feet 12-18" apart.
- 12. FAST FEET:** Bend at the waist with arms hanging down in front of the body. Buzz feet as quick as possible while slowly moving forward. Buzz feet for 10 yards, then accelerate for 10 yards.
- 13. GROIN SKIP:** In a skipping motion alternate each leg. Drive the knee towards the chest, but out to the side.
- 14. HIGH KNEES:** Drive knees high towards the chest, keeping good posture. Keep elbows bent at 90 degrees.
- 15. TAPIOCA:** Same drill as carioca, but use short quick movements.
- 16. BACK PEDAL:** Same motion as quick pace, except backward. The chest should lean over the toes.

C. SPEED IMPROVEMENT DRILLS

1. **STATIONARY ARM ACTION:** Sit on the ground or stand in place. With the elbows locked at 90 degrees, hands relaxed, and good posture, drive the elbows back so the hands go past the butt. On the upswing of the arms, the hands should not go above the shoulders.
2. **SPEED SKIPS:** In a skipping motion drive knees up and out while maintaining good running form. Keep elbows and knees bent at a 90 degree angle. Be sure to keep an upright position.
3. **LATERAL SPEED SKIPS:** Same skipping motion as speed skips, except drive knee out to the side.
4. **BACKWARD SKIPPING:** Same skipping motion as speed skips, except backward.
5. **ANKLE FLIPS:** Bounce upward and forward on the toes, while keeping the legs straight. Do not lock the knees.
6. **SPEED VOCAB SYSTEM:** Speed improvement is evident when the mechanisms of speed are properly applied. This speed system is based on a one word vocabulary that is in reference to each body part. The system (McNair System) must be mastered at $\frac{1}{2}$ speed, $\frac{3}{4}$ speed, the finally at full speed.

FOCUS: Eyes straight ahead at conversation level. Avoid head tilt. Head down will cause the bodt to lean too much. Head back will cause too much vertical component.

FIX / ROTATE: Elbows fixed at a 90 degree angle at all times. Arm swing at shoulder joint.

HAMMERING: Violent action of the arms downward. Hands through pocket past butt as if you were pounding a nail into wall.

DRIVE DOWN: Knees drive out forward , not up. Drive thighs down hard and back underneath the hips.

D. PHASE WORKOUT

STARTS

1. SPEED STANCE/STARTS:

Speed Stance

A. Front foot 3-5" behind starting line. Front leg flexed at a 90 degree angle

B. Opposite hand should be placed directly behind the starting line, with thumb and index finger opened and parallel to the line

C. Opposite hand should be placed just above the hip and forward leg

D. Back foot should be 4-8" behind lead heel of foot, 2-4 " to the side

E. Hips above shoulders

F. Shoulders slightly over the starting line, majority of weight distribution on lead hand and foot

G. Eyes back toward feet

H. Remain at a paused set for at least a one count

Speed Start

Pushing off the front leg, pull the back leg forceful through with quick step

Straighten front leg explosively, driving body forward and out

Bring lead elbow forcefully up and back

Hip hand driven straight up and forward
Hips forward keeping head down
Relax hands, face, neck

2. PUSH-UP STARTS: The athlete performs a push-up then gets into a hard, low hard, while focusing on driving out hard and low. This drill will help the athlete drive out using fast hard steps.

3. GROUND STARTS: The athlete lies on the ground, either on the back or on the stomach. On a command the athlete pops up and drives out of the stance as hard and quick as possible.

4. POSITION STARTS: Get set in the football position required. On movement or a sound explode for 5-10 Yds Staying in the position required stance

5. BALL DROP STARTS: A partner stands 5-10 yards away holding two tennis balls out away from their body. The other athlete is in either a speed stance or a position stance. The partner drops one of the ball, and the athlete attempts to catch the ball before in bounces twice.

6. RESISTIVE STARTS: One athlete holds a towels or band around the other athletes waist. The working athlete is in a speed stance or position stance and begins driving out of the stance against the resistance for about 3-5 yards. At that point the partner releases the towel and the athlete sprints to the finish.

ACCELERATION

- 1. STICK DRILL:** The athlete begins in a speed stance. Sticks are laid out in front of the body with the first stick 12" from the start, the next stick is 18" from the first stick 24", then 30" adding 6" up to 10 yards. The object is to drive the feet on the sticks.
- 2. SLED/TIRE PULL:** With a sled or tire connected to a harness or belt, the athlete will accelerate 10-25 yards. The weight of the tire/sled should be no more than 15% of body weight.
- 3. HARNESS RUNNING:** With a speed harness the athlete will perform a perfect technique run of 10-20 yards. The partner will apply enough resistance to get work , but not too much to hinder the technique.
- 4. WALL DRILLS:** Stand facing a stationary object or a wall, with both hands positioned on the wall in front of the body. With a body lean of 45-55 degrees begin to drive the right knee up towards the chest, then drive the right thigh down and back underneath the hips As the right leg drives down, the left leg drives up. Continue the drill for 10 seconds.

SPEED

- 1. BUILD –UPS:** Gradually increase acceleration for 20-30 yards, until full speed is achieved
- 2. STRAIGHT SPRINTS:** Full speed sprinting 40-60 yards.
- 3. IN-OUTS:** Gradually accelerate for 20-30 yards to full speed, then decelerate for 20-30 yards. Sprint full speed for 20-30 yards, then decelerate for 20-30 yards, then reaccelerate for 20-30 yards.
- 4. FLY'S:** Gradual build-up to maximum speed , then maintenance of maximal velocity for desIgnated distance usually 20-30 yards.

SPEED ENDURANCE:

Perform a series of sprints with 20-25 seconds rest. The goal is to build up maintenance of speed for a period of time.

Phase I Speed Prep/

General Format

I. General Warm-up/Flexibility

General Movement Runs/Dynamic Flexibility

- A. Backward Running 2 x 20yds
- B. Carioca 2 x 20yds
- C. High Knee 2 x 20yds
- D. Butt Kicks 2 x 20yds
- E. Knees to Chest 1 x 20yds
- F. Straight Leg Walk 1 x 20yds
- G. Lunge 1 x 20yds
- H. Side Lunge 1 x 10yds(flip)

STRETCH

II. 3 Station Specific Warm-up

4:00 per station

A. Movement Drills x 15 yards

Back pedal
Carioca
Shuffle/downhill shuffle
360 degree high knees
tapioca

decelerators

line touches

B. Athleticism

Speed ladders
Front/side/back crabbing
Hopping: dbl leg/single leg
Leap Frog
Box Kicks
Movement Jump Rope

C. Mobility

Leg swings
Hurdle drills
Leg exercises
-fire hydrant
-flex/extend
-abduction

III. Speed Development

- 3x5:00 stations

- A. Form Run
Seated Arms
Walking Arms
- B. Form Runs

- 1. Body Posture
- 2. Leg Drive
- 3. Knee Drive

IV. Conditioning

300 yd shuttles

2x(3x100) :52/:54/:56 sec

2x(60x5) : 56/:60/:64 sec

- Backward Running

- C. Stance/Starts
 - Teach Speed Start
 - Position Starts
 - Ground Starts

Phase II Speed / Agility

General Format

SPEED/POWER EMPHASIS

I. General Warm-up/Flexibility

General Movement Runs/

Dynamic Flexibility

- A. Backward Running 2 x 20yds
- B. Carioca 2 x 20yds
- C. Groin Skip 2 x 20yds
- D. Butt Kicks 2 x 20yds
- E. Knees to Chest 1 x 20yds
- F. Straight Leg Walk 1 x 20yds
- G. Lunge 1 x 20yds
- H. Side Lunge 1 x 10yds(flip) Stretch

II. Warm-up Speed Drills

- Quick Pace Run 2 x 20
- Butt Kicks 2 x 20
- High Knees 2 x 20
- Backward Run 2 x 20
- A skips 2 x 20
- Backward Run 2 x 20
- Leg Swings 10 x

III. Speed Warm-up

Stretch

4 x 40 @50 %

Stretch

4 x 40 @ 75%

Stretch

4 x40 @90%

Stretch

2 x 60 Build –ups

IV. Speed Groups

4 x 15-40 yd

V. Power/Agility/ Stations

3 x 2:00-4:00

Sled Push

Bag Hop/Sprint

4 Corner Cone

Agility Runs/T Drill

Mat Drills

Open Hip Drill

Wave Drill

Squirm Drill

VI. Stretch/Cool-down

Phase II Speed / Quickness

General Format

Acceleration/Quickness EMPHASIS

I. General Warm-up/Flexibility

General Movement Runs/
Dynamic Flexibility

- A. Backward Running 2 x 20yds
- B. Carioca 2 x 20yds
- C. Groin Skip 2 x 20yds
- D. Butt Kicks 2 x 20yds
- E. Knees to Chest 1 x 20yds
- F. Straight Leg Walk 1 x 20yds
- G. Lunge 1 x 20yds
- H. Side Lunge 1 x 10yds(flip) Stretch

II. Speed Development Stations

3 x 5-10 minutes

- A. Ground Plyos
- B. Stance/Starts
- C. Acceleration
 - resistive
 - stick drill

III. Quickness Stations

3 x 5-10 minute stations

- Short 4 Cone
- Mirror Dodge
- Speed ladders
- Football Position
- Mat Drills
- Cone Knock Down

IV. Conditioning

- Position Shuttles (10)

- Skill 4 x 20 15 sec
- Big skill 4 x 15 12 sec
- Line 4 x 10 :9/:11 sec

- Backward Running

- 8 x 20-40 yd
- 20-line, 30-bskill, 40-skill

110's or Half Gassers