# Sprint/Speed Training

By Paul Tramontanas

In footy, speed is required over distances from 10m-70m depending on the state of play.
This being the case, the full range of distances need to be trained to develop speed over all distances.
Good speed is essential as it gives you more space.

There are several components of sprinting that need to be trained and executed properly to improve sprinting performance.
**Co-ordination and biomechanics** are one of the most influential factors. To sprint fast you must co-ordinate all the limb movement and force applications.
**Strength and power** are other important influences because they contribute to both stride length and frequency.
**Flexibility** is also vital because a wide range of movement is necessary to sprint fast. Inadequate flexibility will limit both stride length and stride frequency. Special attention should be placed on flexibility in the Achilles and the gastrocnemius, hamstring group, hip flexors and extensors, shoulders and trunk.
Aerobic Fitness is maintained all season long. Each workout is dependant upon the condition of the athlete.

**There are two elements that need to be considered to increase sprint speed:**

1. Stride length:
2. Stride frequency.

The drills outlined in the sample program are designed to increase both

**Action of Sprinting**

**Arm Action** - Swing arms from the shoulder, keep them relaxed and at approximately 90 degrees of flexion at all times. Don't run with tense arms
**Body Lean**- The body should have a slight forward lean (4-6 degrees). It is important that the angle of lean comes from the ground and not from the waist. Bending from the waist will interfere with the correct mechanics of sprinting.
**Foot Contact** - Do not run up on your toes. The toes offer no power or stability and if you run on your toes you will not run fast. Instead land on the balls of your feet and push against the ground. Don't reach and pull toward the ground.
**Striding** - This is the most misunderstood element of sprinting. Don't reach and over-stride to increase stride length, but rather

push against the ground and let the foot land underneath the centre of gravity.
**Dorsiflexion**- big toe as close to the shin as possible during recovery. Maintain dorsiflexion during downswing as well. This will decrease recovery time and increase power by initiating a pre-stretch/shortening reflex action..
**Early recovery**- Keep hips tilted forward at all times. A butt out running posture is evidence that they tilt backwards. Hips forward allows easier knee lift and less back-swing of the upper leg.

### Three basic Phases Conditioning pre season and competition

Conditioning: Strength and speed development. Short cycles three -five weeks. 2 x week.
Pre-season: 1 week
Competition: 1week.

Recovery 48hrs. A massage and hydrotherapy are aspects of recovery

### Sample Program: Pre-season (3-5 weeks Cycle)

**Session 1 (two weeks)**

**Warm up and stretch.**

5-10 minute jog
Static stretches: Hamstrings, quadriceps, groin, calves and achilles, trunk and shouldres.
Dynamic stretching: Leg swing side-to-side
Leg swing back and forth.
Shoulder swings/rotations.
Yoga drill

**Running Drills**

High knee stepping 4 x 20m
Sprint lunges 2 x 30m
Run through strides 2 x 30m (75% Max)

**Sprinting Drills**

In and outs. 15m jog---- 25m sprint (walk Recovery) x 4-6
10m jog---- 15m sprint x 4-6
5m jog------10m sprint x 4-6

Standing and sprint starts 10m x 4
15m x 4
25m x 4

Abdominals.

Warm Down

**Session 2. (two weeks)**

**Warm-up and stretch**

5-10 minute jog
Static stretches: hamstrings, quadriceps, groin, calves and achilles, trunk and shouldres.
Dynamic stretching: Leg swing side-to-side
Leg swing back and forth.
Shoulder swings/rotations.
Yoga drill

**Running Drills**

High knee skipping 3 x 50m
Butt-kicks 3 x 30m
Speed stepping 2 x 50m

**Sprinting Drills**

In and Outs. 15m jog----30m sprint x 3-5
15m jog----40m sprint x 3-5
15m jog----60m sprint x 3-5

Sprint and standing starts 30m x 3-5
40m x 3-5
60m x 3-5

Abdominals

Warm down

**Session 3 (two weeks)**

**Warm-up and stretch**

5-10 minute jog
Static stretches: hamstrings, quadriceps, groin, calves and achilles, trunk and shouldres.
Dynamic stretching: Leg swing side-to-side
Leg swing back and forth.
Cycling
Shoulder swings/rotations.
Yoga drill

**Running Drills**

Wall slide 3 x 20m
Quick Feet 3 x 10m
Bunny jumps 3 x 10
Run through strides 2 x 20m

**Sprinting Drills**

Varied Starts 15m x 4-6
20m x 4-6
25m x 4-6

In and Outs 15m jog-----25m sprint x 3-5
10m jog-----15m sprint x 3-5
5m jog-----10m sprint x 3-5

Abdominal

Warm Down

**Session 4 (two weeks)**

**Warm-up and stretch**

5-10 minute jog
Static stretches: hamstrings, quadriceps, groin, calves and achilles, trunk and shouldres.
Dynamic stretching: Leg swing side-to-side
Leg swing back and forth.
Cycling
Shoulder swings/rotations.
Yoga drill

**Running Drills**

Down and Offs 3 x 15
Bounding 3 x 30m
Stick drill 3 x 15 (1.2m-1.5m Apart)

**Sprinting Drills**

Sprint and standing starts. 60m x 3-5
40m x 3-5
30m x 3-5

In and Outs 15m jog------50m sprint x 3-5
15m jog------40m sprint x 3-5
15m jog------30m sprint x 3-5

Abdominals

Warm down

**Session 5 (1 week)**

**Warm-up and stretch**

5-10 minute jog
Static stretches: hamstrings, quadriceps, groin, calves and achilles, trunk and shouldres.
Dynamic stretching: Leg swing side-to-side
Leg swing back and forth.
Cycling
Shoulder swings/rotations.
Yoga drill

**Running Drills**

Side stepping. 3 x 30m
Bounding 3 x 30m
Stick drill 3 x 15 ( 1.5m-1.8m)

**Sprinting Drills**

In and Outs 15m jog----25m Sprint x 3
10m jog----15m Sprint x 3
5m jog----10m Sprint x 3

Varied Starts 25m x 3
15m x 3
10m x 3

Assisted Running, Plyometrics and Sprint Loading can be added during different cycles in preparation

**Cycling** - Leaning against a wall, bar, or any other support, one leg is cycled through in a sprinting manner. Emphasize keeping the leg from extending behind the body and allow the foot to kick the buttocks during the recovery and paw at the ground to complete the action. Perform 10 cycles each leg.

**Down and offs.** From a high knee position, the emphasis is to decrease your foot/ground contact by hitting the ground with the ball of the foot and getting it off as fast as possible.
In turn, the effort on the ground should bounce your leg up into the high knee position.Ten down and Offs make one set.
Drills

**Bounding** drills are designed to develop the explosive leg power required for starting and leaping

Sprinting drills.
**Butt-kickers** From a jog the lower leg is allowed to swing back and to bounce off the buttocks. The upper leg should not move forward much. Place emphasis on allowing the heel to come up to the butt.

**Wall slide** From a jog, the action is the same as for butt kickers except that the heel of the recovery leg must not travel behind the body. Imagine that there is a wall of glass running down the back of your body and does not allow the heel action to break it. This action will produce knee lift without forcing the action. This is done properly when the heel bounces off your butt.

**In and outs:** begin jogging into a sprint

**Start and sprint** From a stationary position, start quickly from different starting positions and sprint for the required distance.

**Quick feet drill.** From a jog, increase your stride frequency so that you take as many steps as possible in a 10 metre interval. Jog 10 metres and repeat. Emphasize quick turnover with legs moving in front of, not behind or under the body.

Workout drills

**Sprint loading** is a technique designed to improve sprinting speed by adding weight or resistance to your body while sprinting. Sprinting with this added weight or resistance,your body must create greater force with each step to overcome the slowing effects of the added weight or resistance. Thus with sprint load training, your body will gradually learn to apply greater force to each of your stride, increasing your stride length and sprint speed. Some sprint loading techniques include: weighted vests, parachutes, uphill sprinting, stadium stairs, sand runs and weighted sleds.
The best way to utilize sprint loading is to use a low level of resistance that will not alter your sprinting form and vary the methods to add some variety.

**Assisted running** Stride frequency is increased by educating the

athletes neuromuscular system to perform at a level higher than previously possible. Methods include downhill sprinting, wind assisted sprinting,

**Plyometrics** focus on the reflex of the sprinters neuromuscular/tendon system. This reflex is the stretch/shortening reflex of human muscles. When muscles go through this reflex they can produce more power than through simple contractions. It produces more power and therefore increases stride length
Care should be taken when implementing this type of training as there is a high injury potential.

**Core Development** is very important in increasing maximium velocity. It is said that sprinting is 30% abdominals. Core strength gives the athlete the ability to maintain optimum sprint position. The high hip
position essential to maximum stride length is dependent good core strength.

**Stick drills** Are used to develop stride length and stride frequency. Use lane width lengths of PVC with an elbow joint at each end to slightly raise the obstacle. A raised obstacle forces the athlete to step over and decreases ground contact time.

You will need about 15 sticks. Stick drills 3-5 reps 4ft -2-3weeks 4.5ft 2 weeks, 5ft 2weeks ....6ft.