

Speed Training for Team Sport Athletes

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This article addresses the approach I take to improve a team sport athlete's speed (specific to the demands of their sport).

Typically I like to take a team sport athlete through 3 main phases to improve their overall sprint performance:

1. Work on correct leg mechanics (this is almost always poorly executed particularly if the athlete has had no prior speed technique training).
2. Work on linear speed – in particular acceleration velocity but also working on top speed.
3. Working on change of direction speed – this can be both rapid change of direction (eg 90 degrees, 180 degrees) but also the ability to be able to run around a curve at speed.

LEG MECHANICS

Team sport athletes typically rely on stride length rather than stride rate to try to run fast resulting in poor running mechanics, increased breaking forces at ground contact, exposing hip flexors and hamstrings to overuse and largely being ineffective in any acceleration effort required.

In the first session I will introduce all players to the basic leg recovery mechanics I want them to achieve during any sprint action.

These sprint mechanics are:

- Emphasising the lifting of the knee with each stride
- Ensuring that the lift their foot up under their butt at the same time

- They don't point their toes – dorsi-flexion is the key
- They put the foot straight back down (don't try to reach out)



The progression by which I take the athletes through this drill is as follows:

- High knee drill over 10-20m
- High knee drill to easy acceleration trying to maintain leg mechanics into the run
- High knee drill to more aggressive acceleration with maintenance of leg mechanics

MAJOR TECHNICAL ERROR

What almost every athlete will do in the early stages is as soon as they try to move from the high knee drill to the acceleration drill, they will typically drop their hips and knees, get long and try to accelerate “the old way”. This is one of the most time consuming aspects of teaching a new motor skill (sprinting effectively) but this is a really important drill to spend as much time as necessary.

The high knee component allows the player to get a feel for picking up their knees and keeping their heels under their butt as they go through the sprint stride (even if almost stationary at this stage). The slow transition to real running should try to ensure that they don't change body position (don't drop down) and most importantly, what ever cadence they are performing the high knees, they have to try to maintain this cadence as they accelerate.

As the player accelerates, they will immediately want to decrease cadence and increase stride length. It is very important that the same cadence is maintained from the drill into the acceleration sprint – this drill is all about ensuring they get used to keeping up a high cadence which is key to long term team sport sprint speed.

As the player becomes more comfortable with this drill you can then have them increase the rate of acceleration from the high knee drill. This is one of the best drills to reinforce the correct leg mechanics when sprinting.

ACCELERATION TECHNIQUE

Once the player has learnt to complete the above drills with quality then it is time to move onto more challenging (and sports specific) sprint movement patterns.

I always like to have my players work from rolling starts to begin with – it is just easier to get into the correct sprint position from a moving start than from a stationary start (which we work on later in the program).

DRILL 1

The first of these drills is to have the player accelerate from a run in. The key focus of the drill is the picking up of the knees (as this is the first technique to go with team sport athletes when sprinting).



Knees up and heels under the butt is what are you looking at having your players perform for this drill. The distance you want them to run is generally 15-20m to give them time to work on this technique. The lead in jog can be anywhere from 3-5m.

DRILL 2

The second drill is to have them perform the same acceleration but this time with only a walk in start. It is a bit harder to accelerate correctly from a slower start and again the focus is on knees and heels under the butt with each step.

What you might see at this point is some players when they try to pick up their knees will “pop up” too soon and be quite ineffective with their sprinting. This is also a common fault – it is quite a difficult position to keep a forward body lean AND pick up your knees at the same time. Some athletes will not be able to do both effectively early on and so you have to spend some time in getting them used to the forward body acceleration position whilst picking up their knees.

One cue I use with players as they start to get better at this drill is to have them try to:

DRIVE THEIR KNEES TO THEIR CHEST

whenever they try to accelerate – this leads to a great leg position for accelerating and as long as they are strong enough through the core to keep a forward lean and drive their knees to their chest, this develops very good sprint acceleration technique.

DRILL 3

Standing start acceleration drill.

This drill is a further advancement to the walk in acceleration drill.

The athlete now has to immediately get into correct acceleration technique from a standing start.

Early on with this drill I will have them start with a traditional track and field standing start position. In time you can change this and have them start from any variety of positions as sports specific as you wish.



Again the focus is on driving the knees to the chest, heels under their butt, chest forward and swing their arms.

SPORTS SPECIFIC SPEED

Whilst the above training will have very positive effects upon players' ability to accelerate and sprint faster and better (and more efficiently leading to less hamstring/hip flexor issues), it is then really up to the imagination of the coach as to how to modify the start positions and direction/path the players run.

Below is a 6-week program I took a semi-professional football team through – at the end of this program, no players had any hamstring issues (several had hamstring problems before we started) and every player felt better when they sprinted and the coaching staff felt the players were more dynamic and effective on the field during games.

Week 1

Intro to running technique, high knees to running

Week 2

Intro to acceleration technique

Change of cadence drills

Off the ground acceleration training

Week 3

Revision running technique

Revision acceleration technique

Introduce 180° change of direction acceleration training

(L or R on command)

Partner change of direction drill (2m ahead)

Week 4

High knees to run through

Revision running technique

Revision acceleration technique including 180° change of direction (on command, own direction)

Fast feet to 10 m sprint

Lateral shuffling to acceleration

(Forward).

Week 5

Revision running technique

Revision acceleration technique

Fast feet to 10 m sprint

Fast feet 180 turn 10m sprint

Lateral shuffling to acceleration

(Forward/backward).

10m to side shuffle (3m) to 10m

Week 6

Cross overs to sprint

Cross overs to reverse sprint

Sprint around cones (20m)

Sprint-cruise-sprint (7m)

At the end of this program – the team was provided with a maintenance routine that was a combination of the drills the players liked the best (and the ones that most replicated their movement requirements in a game). This maintenance routine could be built into a dynamic warmup allowing the players to touch on speed every session which will ensure they stay sharp throughout the entire season.

If you would like to better understand how to go about evaluating your team sport and the speed work that will get you the best results - check out my post (What does a specific speed session look like for a team sport athlete?)

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