



Building a base for improvement. Strength = power = speed

Hopefully as coaches and leaders you will have in place an annual plan for your athletes, whether this is for a group or for individuals that you are working with. One thing that needs to be carefully planned in is a phase or period where you ensure that your athletes develop strength which will give them the platform with which to progress their training for the coming year and also the stage to increase their speed when you are looking at starting to work towards peaking for the target competitions. This of course will be planned accordingly to build towards the main focus or goal for the coming season. Developing speed and continuing to increase this acquired speed needs to be a careful balance and combination of strength training, skill acquisition, sport or event specific training and pure speed training. Many athletes across all sports train areas of the body in isolation, however the body when it undertakes any task performs a chain of movements which link together, so it is important to ensure that strength work is done in the same way. By ignoring the above principles an athlete's improvement and development can be impaired.

Triple extension

Whilst of course an all body strength and conditioning programme should be implemented, I am in this article focussing just on lower body and leg strength improvement for triple extension and core.

The leg action when running is what is called "triple extension" which as the name implies involves the extension of the ankle knee and hip, this movement also takes place in other activities such as jumping, throwing and also in events such as swimming starts and so on, so as you will see is crucial to increase strength through this range of movement to increase power and hence higher speeds. This action can be trained in a variety of ways using explosive movements.

Strength Training

Firstly we should consider strength or resistance training. Leg strength and core strength are essential for speed. Maximal strength and acceleration ability are closely related and resistance training develops specific strength and improves acceleration. For an inexperienced or young athlete triple extension should be developed by using some very basic bodyweight exercises such as push ups, pull ups, burpees, lunges and the like. Moving on from these you might include overhead medicine ball throws, vertical jumps variations (low box jumps and hop landings) which are excellent for increasing strength in a controlled manner, the variations available here are endless – just use your coaches brain! Other suggestions might include speed squats for the more experienced athlete and again for the more experienced athlete, of course Olympic lifts.

If you are setting a weights programme for your athletes and whether this is using a gym machine or (preferably as it increases core stability) free weights, the major focus should be on squats both front

and back, lunges and a combination of Olympic lifts. The weights should be appropriate and progressive so for those beginning a weights programme it is better to begin with weights which are lower than would normally be set so that good technique can be embedded before moving on with an incremental loading programme.

Core training & Training for a Purpose

In addition to the essential lower body lifts involving the ankle, knee, and hip, the core is an essential piece to enhance speed. Much is talked about “core stability” but many are not actually aware of the importance of training this area and it is often neglected. The "Core" is a pillar which must be strong and stabilised so forces generated from the legs into the ground, from the ground back up through the legs may pass through the core. These forces will then be passed through the limbs for more speed, power, and running mechanics. As noted above, the running or athletic movement is a chain of linked events as opposed to areas working in isolation. This is why a strength program for an athlete should focus on "Training for purpose". So why purposeful training? Purpose is function, so purposeful training is functional training and is literally training muscles based on their purpose. If you can keep this in mind when setting a S&C programme and ensure that everything that you do is linked and not performed in isolation then coupled with a well thought out training programme your athletes should be hitting the heights next year!

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