

## Running Development

My colleagues Dean Benton and Vern Gambetta wrote an insightful article recently on the foundations of physical qualities for the developing athlete – [www.atletico.com.au](http://www.atletico.com.au) - and it is well worth a read.

*"The Bosch and Mach series drills should be placed in the functional capability category. Particularly when coached as resisted technique drills – as opposed to resisted running. These drills serve as tremendous developers of anterior hip range of motion, specific posterior and lateral hip strength – as well as facilitators of calf complex stiffness. They do not necessarily improve running technique directly, but indirectly provide the specific strength and body awareness to express better technique. The most effective way to teach technique is via running – not drilling."*

As a co-author of the new Scottish Athletics Coach Education pathway, I have been encouraging coaches to create and utilise a range of learning processes in their toolbox. In the very early stages, I support the use of the 'whole' learning process as described in Dean and Vern's final sentence in the above paragraph. A 'drill' is a coaching tool that should be used to support the development of the complete movement pattern and not seen as a final solution. Unfortunately, we see large numbers of athletes competent at drills and limited in the complete movement pattern. The use of drills as a support mechanism implies that the central effort should be in the development of the total movement pattern in the first instance. In other words – let them run.

What the coach will see as the athletes try to solve the running puzzles presented to them will be, on the face of it, often strange and certainly varied. Don't panic - the maturation stage of the athlete will be the main influence here as they will often display quite different physical aptitudes to the more senior members of their squad or Club. Their mechanical and metabolic development levels will still be in their infancy and they will not have the anatomical or metabolic tools to immediately present an accurate and stable movement pattern. Fear not, because a patient, general approach will bear fruit later in the pathway.

Running puzzles should see the athletes managing their bodies when running, skipping, hopping or bounding forward or backwards or sideways in straight lines or round in circles. During these 'whole' locomotion activities the coach can manipulate the learning environment to draw out the required movement pattern.

### Example 1

I believe that the way the foot is put on the ground and recovered from the ground in the running cycle is the keystone or 'leading action' aspect of running. Get this right and in many cases the rest of the body will 'self-organise' and move or stabilise correctly to allow the foot-landing and lift-off to be done correctly and consistently. For example, coaches may use the phrase *'step over the opposite ankle and punch the foot into the ground'* as a cue to set this foot-strike pattern correctly. As part of this focus, why not consider running-skipping with a rope. To run with a skipping rope often automatically sets the foot in the correct position and pattern. Little needs to be said and it is a 'drill' that doesn't isolate a part of the pattern but emphasises the continuity of the pattern as a 'whole' skill.

The following photographs illustrate the natural reaction to the skipping rope as it travels under the feet. The constraint is the rope and the athlete naturally tries to keep the feet away from the rope by 'cocking' the foot and lifting it high after contact with the ground. They then have to 'punch the foot into the ground' in an effort to be ahead of the ever-moving rope. No need for a list of coaching points about foot contact and recovery – just let them learn to skip and move forward.



### Example 2

If the coach sees poor trunk posture or stability as the running puzzles unfold e.g. hips sitting or collapsing; knees knocking; trunk swaying; etc, then the answer may be in another 'whole' action like Overhead Stick Running.

Here the athlete gets on with running and at the same time attempts to overcome the constraint of *'keep the stick perfectly still'*. The athletes may well think they are keeping the stick still but believe me once they see the results on a video (smartphones or tablets are very useful here) they will realise that there is much to be done. Their answers are again a 'self-organising' process and many will report that they feel the trunk and hips working 'overtime' to get the job done. The answers to keeping the stick still will come from the arms, trunk and hips finding the solution – hence a degree of control and stability during the motion of running.



By the way – these exercises are loads of fun with plenty of metabolic stuff going on. The coach need not be an absolute expert in all the aspects of running mechanics (but should be able to recognise superfluous or limiting movement patterns) and they will need to say very little during the time the athlete is slowly trying to solve the puzzle.

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