Speed and Agility Training as Rehabilitation

What is speed and agility?

In an athletic environment, speed is defined as the ability to move the body in one direction as fast as possible. Agility is the ability to change direction rapidly, whilst maintaining speed and precision. Agility also needs to be in response to stimulus (i.e. include some level of perception, anticipation or reaction). There has been a lack of consensus over the definition in the sports science and fitness world, possibly due to the concept incorporating not just the strength demands of the task, but also the technical skills and cognitive processing (or motor control) that takes place.

Why is it important?

Speed and agility are an integral part of most athletes required sports, especially those in cutting or change of direction sports. The ability to sprint and change directions quickly is an important determinant of sports performance in field and court sports. When a player has been injured, their speed and agility will naturally reduce due to deconditioning and a lack of practice. It is therefore crucial to have speed and agility as part of the rehabilitation process, especially in the later stages. Freeman et al. (2019) found that sprint training effectively strengthened the hamstrings after injury and may have an injury prevention and sports performance effect.

How do we improve speed and agility?

With a better understanding of the separate components that make up speed and agility, we can start to train these attributes more effectively. There are a number of drills that can be designed and implemented to work on explosive and reactive motor skills.

The major guidelines surrounding speed and agility training include:

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- An adequate strength and conditioning program to serve as a base. An athlete cannot be fast and agile unless they are powerful. This means being able to produce high relative force production. This is done in the gym!
- A suitable dynamic warmup that should mimic the planes of movement in the day's session
- Optimisation of running gait (especially the first few steps of an athlete's acceleration)
- Timing is often at the start of the training session or on alternate days to avoid fatigue and risk of injury/reinjury
- Consistency and programming of sessions does vary but is also dependent on the skill, fitness level and injury history of the athlete. Often twice weekly is adequate however.
- As with other plyometric programs, the focus should be on quality rather than quantity
- It is imperative to include training that mimics the player's demands to increase specificity. It is vital that an elite sprinter is trained differently to a field sport athlete if they are to both improve in their chosen sport. Elite sprinters have to sprint, and do it regularly, whereas they will not benefit from cutting practice.
- Drills must include an element of anticipation or reaction when training agility

Examples of speed or agility drills

- A-skips
- Linear sprinting from a stop-start or jogging start
- Resisted sprints with a harness
- Lateral bounding
- Ladder/cone drills
- Lean in sprints
- Wall drives
- Figure eights
- Reactive shuffles/mirror shuffles
- Uphill sprints
- Plyometric jumps

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Beginners running drill for running mechanics– A skip variation

https://vimeo.com/321896697

Change of direction drills

https://vimeo.com/538468341

If you are recovering from injury and would like some guidance on returning to speed and agility training as part of your recovery, please contact the physiotherapists at In balance physio and pilates to get started.

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