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## Speed and agility of hockey players

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### Abstract

This study investigated the agility and speed of the hockey players and recommended the different types of exercises to develop the speed and agility among hockey players. In hockey there are different positional players including goal keepers, but the basic description of each position isn't all that unique – they all try to chase the ball, catch line drives, and stop ground balls. Meanwhile, the game demands speed and agility throughout the game. The trainers need to put more concentration and sessions to improve the quality.

**Keywords:** Hockey, agility, speed, change of direction

### Introduction

Although top speed and sudden change of direction can help on the ground, agility is more important for hockey players. Your movement speed, frequency and high velocity of direction change, initial speed, explosiveness, and deceleration are depending up on your speed and velocity. The game of hockey moves incredibly fast and agile to overcome the opponent. More often than not there is a ton of external stimuli going on with the play – the position of the opposing players, the position of your players and what's going on in the mind of the player – that will almost always break up this straight away course. This is why the development of speed and agility is a highly desirable trait out on the field hockey. Agility has been described as vitally important to performance in sport, providing a foundation for motor-skills and neuromuscular control and establishing a broad athletic ability (Vescovi, 2006). Along with balance and co-ordination, agility is recognized as a fundamental component of early years' athletic development and as such is incorporated within participant development plans such as the Long Term Athlete Development Plan (LTAD) (Balyi & Hamilton, 2004).



**Fig 1:** Speed

Speed is the distance traveled per unit of time. It is how fast an object is moving. Speed is the scalar quantity that is the magnitude of the velocity vector. It doesn't have a direction. A higher speed means an object is moving faster. A lower speed means it is moving slower. Speed is not just how fast someone can run (or cycle, swim etc.), but is dependent on their acceleration (how quickly they can accelerate from a stationary position), maximal speed of movement, and also speed maintenance (minimizing deceleration). Movement speed requires good strength and power, but also too much body weight and air resistance can act to slow the person down.

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**Fig 2: Agility**

Agility is the ability to change the body's position efficiently, and requires the integration of isolated movement skills using a combination of balance, coordination, speed, reflexes, strength, and endurance. Agility in and of itself heavily involves both physical and mental qualities within an athlete. Most people assume the physical part. Train for agility and you become more agile. Many people seem to forget though is how important the mental aspect is behind what I would consider a more thorough and complete look at what agility truly is. Agility demands you have a strong mental game, and when it comes to hockey this requires both mental agility, comfort, and confidence.

#### **Importance of speed and agility in hockey**

Nowadays improvements in speed and agility could make a huge difference on the hockey field whether you are a field player or a goalkeeper... The pace of the game has increased massively over the last few years and regardless of your skill, if you are not quick enough you could be left behind.

**Speed of foot/hand:** This is overall quickness, explosive power, speed over a short or long distance, and agility of foot and speed of hand.

**Speed of ball:** This is the ability to quickly move the ball on the stick, maintaining possession, receiving, and passing quickly and effectively. These are an athlete's hockey skills.

**Speed of thought:** The ability to think and react to all situations as they arise. The quick and controlled responses to the when, where and why of ball and player movement. Speed of thought is the ability to react quickly through anticipation, deception, clue reading, visual skills, and the use of width and depth. Changing directions and being able to maneuver quickly around other players is key skill in Field Hockey. Players need to be flexible and agile. Increasing one's flexibility helps to and maintain stability and balance, which is also important for injury prevention. Yoga and simple stretches are great for increasing flexibility, but always check with a physician before beginning a new exercise routine. Agility, the ability to rapidly change the body's momentum from one direction to another, can be enhanced through drills that require quick and precise movements. Common agility drills are: grapevines, ladder drills, lateral sprints, and hill climbs. Being flexible and agile is great, but make sure you can integrate speed, flexibility, and agility with the actual skill. Field Hockey fitness is all about perfecting a move in order to make it happen rather than just remember it must become an automatic reaction.

#### **Way to Improve Speed and Agility**

**1. Short Sprints and reaction:** Set 2 cones out 10-20 meters apart. Sprint from one cone to the next and slowly

jog back to the start. Vary the start of the sprint to make the drill more sport specific. For example... Face backwards, lie down, jump up, pretend to receive a pass, jump to head a ball etc.

**2. Rolling Start:** Exactly the same as above except you jog for 10 meters before sprinting.

This drill is specifically designed to enhance acceleration rather than speed off the mark. Try running backwards or side stepping as well.

**3. Up Hill running (sprint):** In competition the first few strides are crucial. Running up a slight hill (about 30 degrees) helps to develop power and acceleration. Keep the distances short (10-15 meters) and allow extra rest between sets. An alternative to uphill running is and reps. resistance parachute.

**4. Down Hill Sprints (speed barrier breaker):** Down hill speed and agility drills help to develop leg speed and co-ordination. This is sometimes referred to as over-speed training.

Keep the distance short (10-15 meters) and make sure the hill is only slight. An alternative method of over-speed training is to use elastic cords. An Over-Speed Trainer consists of a pulley system to provide a smooth build up of speed. It enables the sprinter to move at a rate greater than 100% of their usual top speed. It can also be used to provide resistance much like uphill sprints.

**5. W Cone drills:** Set 5 cones in W formation of 10 meters of distance. move one cone to another cone with dribbling the ball with the stick. suddenly change the direction.

**6. Cruise And Sprint:** Mark out a distance of 100 meters. From the start gradually accelerate to reach full speed at about 60 meters. Sprint all out for the final 40 meters. Reduce the number of repetitions for this exercise as it takes longer to complete.

**7. Ladder Drills:** A ladder is a simple training device that helps to improve co-ordination and leg speed. It can be used for a number of speed and agility drills and is particularly useful for sports such as tennis and basketball that requires fast and co-ordinated footwork.

**8. The Snake:** Set up a series of 6-8 cones in a straight line about 1 meter apart. Weave through the cones, turn and weave through back to the start.

**9. Follow the Leader:** A training partner and large area is required for this drill. Have your training partner jog, run and sprint randomly over a large area. You must try to shadow her as closely as possible. This is an excellent drill that helps to develop reaction time, acceleration and speed endurance.

#### **Conclusion**

This study was to show the importance of speed and agility in hockey players. In hockey there are different positional players including goal keepers, but the basic description of each position isn't all that unique – they all try to chase the ball, catch line drives, and stop ground balls. Meanwhile, the game demands speed and agility throughout the game. the trainers need to put more concentration and sessions to improve the qualities.

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