

## **Aerobic Capacity, Speed, Power and Fatigue Index of Female Hockey Players**

**Ramandeep Kaur and Ashok Kumar**

### **Abstract**

**Aim:** To observe aerobic capacity, speed, power and fatigue index of female hockey players.  
**Method:** Ten healthy female hockey players participated and their age ranged from 17 to 27 years. Each subject performed a Queen's step test and Running based Anaerobic Sprint Test (RAST).  
**Result:** The mean age, height and weight of hockey female players was 22.90±1.91year, 157.20±8.21cm, and 50.40±6.09kg. The mean VO<sub>2</sub>max, sprint time 1, sprint time 2, sprint time 3, sprint time 4, sprint time 5, sprint time 6, power 1, power 2, power 3, power 4, power 5, power 6, power maximum, power minimum, power average and Fatigue index was 33.15±2.88ml.kg.min, 4.38±.46 seconds, 4.48±.51 seconds, 4.60±.51 seconds, 4.78±.62 seconds, 4.75±.52 seconds, 4.90±.62 seconds, 773.60±256.32 watts, 734.30±264.27 watts, 674.60±250.81 watts, 587.40±258.70 watts, 609.30±212.03 watts, 567.10±220.68 watts, 779.20±254.45 watts, 524.90±240.86 watts, 657.70±236.92 watts and 9.24±3.80watts/second. **Conclusion:** It was concluded that female hockey players take more time to finish their last sprint than the first sprint and there was also a decreased power during the last sprint.

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### **Introduction**

Hockey is such a fantastic game because not only it is magic to watch, but it consists of such a large physiological demand of the human body. Muscular strength, muscular endurance, cardiovascular endurance, speed, quickness, agility, power and flexibility. The list goes on and on. However, often we think of hockey as a predominantly aerobic sports. Whereas in reality, it is opposite (Derek 2007). When hockey is broken down. The game is played by players performing at various speeds and intensities; walking, jogging and sprinting. The majority of play is in intervals and the activity does not last for long periods of time (e.g. chasing a loose ball, making a run into space etc.) This is the most important factor to consider when doing hockey conditioning. There definitely is a need for aerobic conditioning as well, due to the fact that the intervals mentioned are repeated at various intensities and durations over the course of a match. The high level of the anaerobic capacities in hockey player enables them to perform high speed runs, which in the end may have a crucial impact on match results (Luhtanen 1994). Kumar and Kathayat (2014) reported that power during different sprints run by the players declined with the course of time and they had taken more sprint time. Kumar and Kathayat (2015) reported a negative relationship between different sprint times and power and fatigue index. Hockey is a predominantly aerobic sport (Stolen et al., 2005; Bangsbo et al., 1991) and anaerobic energy is essential to performance high intensity runs which may