

## Quantifying Fatigue during Periods of Intensified Competition in Professional Ice Hockey Players: Magnitude of Fatigue in Selected Markers

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**Abstract :** The professional ice hockey season consists of approximately 60 regular season games with periods of fixture congestion occurring several times in the average season. These periods of congestion provide limited time for recovery, exposing the athletes to the risk of competing whilst not fully recovered. Although a body of research is growing with respect to monitoring fatigue, particularly during periods of congested fixtures in team sports such as rugby and soccer, it has received little to no attention thus far in ice hockey athletes. Consequently, there is limited knowledge on monitoring tools that might effectively detect a fatigue response and the magnitude of fatigue that can accumulate when recovery is limited by competitive fixtures. The benefit of quantifying and establishing fatigue status is the ability to optimise training and provide pertinent information on player health, injury risk, availability and readiness. Some commonly used methods to assess fatigue and recovery status of athletes include the use of perceived fatigue and wellbeing questionnaires, tests of muscular force and ratings of perceived exertion (RPE). These measures are widely used in popular team sports such as soccer and rugby and show promise as assessments of fatigue and recovery status for ice hockey athletes. As part of a larger study, this study explored the magnitude of changes in adductor muscle strength after game play and throughout a period of fixture congestion and examined the relationship between internal game load and perceived wellbeing with adductor muscle strength. Methods 8 professional ice hockey players from a British Elite League club volunteered to participate (age =  $29.3 \pm 2.49$  years, height =  $186.15 \pm 6.75$  cm, body mass =  $90.85 \pm 8.64$  kg). Prior to and after competitive games each player performed trials of the adductor squeeze test at  $0^\circ$  hip flexion with the lead investigator using hand-held dynamometry. Rate of perceived exertion was recorded for each game and from data of total ice time individual session RPE was calculated. After each game players completed a 5- point questionnaire to assess perceived wellbeing. Data was collected from six competitive games, 1 practice and 36 hours post the final game, over a 10 - day period. Results Pending final data collection in February Conclusions Pending final data collection in February.

**Keywords :** Congested fixtures, fatigue monitoring, ice hockey, readiness

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