

TIME-MOTION ANALYSIS OF ICE-HOCKEY SKILLS DURING GAMES

Dany Lafontaine, M.Sc.^{1,3}, Mario Lamontagne Ph.D P.Erg.^{1,2,3}, Kelly Lockwood, Ph.D.¹
Laboratory for Research on the Biomechanics of Hockey,¹, School of Human Kinetics,², Department of Cellular and Molecular Medicine, Anatomy program,³, University of Ottawa, Ottawa, Ontario, Canada.

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Introduction:

Time-motion analysis (TMA) has been performed for a variety of sporting activities, including ice-hockey. However, these previous TMA studies on ice-hockey have not differentiated between playing levels and/or playing positions. It is the main goal of this study to establish if differences exist between the skills most frequently performed by players of the various positions during actual competition (forwards, defensemen and goaltenders). Furthermore to determine if there are differences in the skills performed by players of two different playing levels (University and Major Junior). Recommendations for coaches at the grassroots and elite levels will be made to assist them in developing players more appropriately for actual play.

Methods:

Ten (5 at each level) regular season games, in the last quarter of the regular season, were recorded on videotape for analysis. This time frame was chosen to ensure that team cohesiveness was well established. One videocamera (total of 6) was assigned to follow a set position on the ice, e.g. one camera for left wing, right wing, etc. All of the subjects involved in the study gave their informed consent, according to the regulations of the Health Sciences Ethics Committee. Analysis of these videotapes was performed by coding the observed skills. Descriptive statistics (mean, std, etc.) on the frequency of occurrence of the specific skills are calculated.

Results:

Preliminary results show that the most frequently performed skills are skating forward without the puck and gliding forward without the puck. The two skills typically occurred in the neutral zone, during even strength play. Further analysis of the data will point to differences between playing levels and/or positions. Goaltender skills were analyzed separately. These players spend the greatest amount of their time standing in front of the middle of their net. The next most frequent skill for the goaltenders, is the ready position, on the left side of the net.

Discussion/Conclusions:

At this point of the study, it seems that hockey players spend most of their playing time waiting for the play to develop, and then reacting to what they see. This appears to be more easily done by gliding forward on both feet. As well, the players spend a very limited amount of their playing time with the puck, therefore, a significant amount of practice time should be spent on developing the most common skills with a puck, so that the players will be more proficient at playing with the puck in game situations. However, the skating skills should be developed as much without a puck, since the players rarely have the puck. For the goaltenders, it seems that they would benefit greatly from concentration exercises, since most of their time is spent standing in the centre of their net. The ready position also needs to be well practised, since it is the second most frequent skill for the goaltenders.

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