

## 16. Summary

The stimulation of motor abilities in sports training of young athletes plays one of the most important roles in most sports games. Ice hockey is a sport that requires long-term training since early childhood. The content of player performance itself places great demands on well-rounded physical and motor development.

Considering these facts, we identified two main areas of research in order to determine relationships with the content and focus of this study. The first area was based on the central testing of players organized by the Czech Ice Hockey Association, and the second area was based on other research studies dealing with the non-specific development of motor abilities in youth categories. Data collected in this manner were analyzed in several basic areas.

The assessment of the motor development levels showed a relatively steady development rate in all administered tests (both on-ice and off-ice tests). As for the off-ice tests, the highest degree of statistical relationship (correlation coefficient) was found between 50-m sprint and 1,500 m run (medium correlation). In the on-ice tests, high degrees of statistical relationship were found between backward skating and forward skating. The correlations between the off-ice tests and on-ice tests were very low.

When assessing the development of the relationship between player performance levels and the development of motor abilities, the teams were divided into three groups according to their performance levels. A very interesting finding was the trend in the development of motor abilities. This trend which was apparent in almost all off-ice tests showed convergence in connection with age. This trend was observed for off-ice tests as well but at a less significant level. It is thus to be answered if physical conditioning during the prepubertal and pubertal age play such an important role as attributed in the literature.

In the U16 ice hockey national team, we found no significant relationships between player performance levels and the development of motor abilities in both specific and non-specific tests.

Monitoring changes in the latent factor structure of non-specific and specific tests has brought new evidence about the existence of a general latent factor – "level of conditioning" (which is frequently discussed), which applies to both non-specific and specific conditioning. This has confirmed a well-rounded physical and motor development required in theory. This development is regarded as principal for training of school-age athletes.

However, one of the most surprising findings resulted from the effect of targeted training on the development of motor abilities. According to some partial researches, we may conclude that

non-specific training does not have such a significant effect on the development of motor abilities. This finding is quite surprising particularly because it has been revealed in several independent research studies, which, however, form a certain closed circle of logical evidence supporting this statement.