modifications are related to the time of work and the load selection index. Smith et al. (1982) proposed the 40-s version of the cycloergometric test. This 10-s time elongation (Smith et al., 1982) aimed at the approximation of the work time to the player's single work period in the ice rink. In diagnostics of Czech hockey players, the 30-s time period was not changed, whereas the load index was increased from 7.5% of the body weight to 10% (Heller, 1999). This modification allowed for maintenance of optimal frequency of revolutions, which is required in this type of test, (110–120 revolutions per 1 minute, Gabrys, 2000). Lower value of load (7.5% index value) resulted in such a frequency, which the subject was unable to increase due to the lack of movement co-ordination. The inclusion of load as soon as the optimal frequency of revolutions is reached, is not commonly used among hockey players performing the cycle ergometric test (such a frequency is reached after the lapse of about 5 seconds of work without the load). This principle undoubtedly results in lower values of recorded maximal power and time of maximal power holding. Thus the diagnostics of anaerobic capacity does not include the very essential data related to ice hockey, namely the player's capacity of maximal power development. This parameter really is very important, since during the hockey game periods of maximal intensity do not last longer than 4–9 seconds. The covering of the entire ice rink takes about 6–7 seconds (Gabrys & Rutkowski, 2002; Starsi et al., 1999). In athletic practice, the kinetics of blood lactate concentration is determined and broadly applied to evaluate the proportion of anaerobic metabolism (Heck, 1990; Weltman, 1995; Madsen, Lohberg, 1987. Kinderman, Keul (1977) prove that determination of blood lactate concentration during muscle work is indispensable for being able to evaluate energy production under oxygen deficiency. In the Saltin et al. study (1971), exercising on a cycloergometer was accompanied by an increase in blood lactate concentration after 10 seconds of supra-maximal effort at 110% $VO_2$max. Mercier et al. (1991) found that after 6 seconds of maximum intensity exercise on the cycloergometer subjects' blood lactate concentration was significantly raised. From the above studies it follows that high-intensity physical work performed for not longer than 10 seconds intensifies the anaerobic glycolysis process. Therefore, considering the duration and intensity of hockey players' work, it is fully justified to use blood lactate concentration as an indicator of their effort. The level of anaerobic endurance, so the ability for undertaking of multiple work incidents of maximal and submaximal intensity is just another essential element of player's preparation (Green, 1978). This sphere of player's preparation is considerably conditioned by the level of anaerobic glycolytic capacity (Green et al., 1978). The ability for multiple undertaking of work is limited by the volume of muscle glycogen reserves and by the rate at which it is resynthesised during breaks between consecutive periods of work in the ice rink. The second essential element affecting this particular ability is effectiveness of utilisation of this source of energy during work. A multiple performance of work at maximal intensity is possible only when the main energy source (typical for a given type of work) is rationally used (Green & Huston, 1975; Nespereira 1999). The assessment of anaerobic endurance in single work period is limited, but the assessment of effectiveness of anaerobic processes is possible. The decline of lactate concentration in blood in consecutive periods of training with maintenance of identical power and total work would indicate the increment of effectiveness of performed work. The opposite characteristic proves the unfavourable changes in this sphere (Gabrys, 2000).



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**Shortcuts applied in the work**

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| $P_{max}$ | maximal power |
| $P_{av}$ | average power |
| $W_{TOT}$ | total work performed |
| $T_{uz}$ | time-to-reach $P_{max}$ |
| $T_{ut}$ | $P_{max}$ holding time |
| ID | power decline index |
| LA | the lactate concentration in the blood |
| ΔLA | the lactate concentration in the blood increment after the completion of test |