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Evaluation of the T/LH Ratio
Evaluation of the T/LH Ratio

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Administration of exogenous testosterone can be detected in urine by the ratio of testosterone to epitestosterone (T/E) as well as by the ratio of testosterone to luteinizing hormone (T/LH) [1-4]. Only the T/E ratio has been officially adopted by the International Olympic Committee (IOC). The IOC applies the criterion that a urine specimen with a T/E > 6 is positive.

To determine the practical value of the T/LH ratio we studied the effect of exercise on the T/LH ratio. Five male well trained caucasians participated in an exercise test of 5.5 hours on a bicycle ergometer, that was designed to simulate a race course of the 'Tour the France'. Urine specimens were collected during the whole day to determine effects on the T/LH during exercise and post-exercise, as well as during the day before to determine pre-exercise values and intra- and interindividual variation.

Pre-exercise, the urinary excretion values of T and LH and the T/LH ratio showed intra- and interindividual variation. During exercise, the LH level decreased significantly, the T/LH ratio increased significantly (p < 0.05).

The T/LH ratios of two different sport populations were also compared. Cyclists were found to have significantly higher T/LH ratios than bodybuilders (p < 0.001).

References


