

Influence of Ozone Treatment in Sports Medicine, J.Jakl MD, Sports Medicine, A-1150, Wien, Austria-Akkonpl.10/15-1995.

Summary: According to the well known effects of ozone treatment and its influence on fatty acids in the erythrocytic membrane as well as in 2,3 DPG, we took interest in possible side effects in endurance tests. 30 sports students had to undertake bicycle ergometrics as *vita maxima* tests.

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Aerobic and anaerobic threshold, heart rate O<sub>2</sub> utilization and lactate kinetics were compared before and after different ozone treatments such as intramuscular application, IV O<sub>3</sub> blood treatment and rectal insufflation. Especially in the IV blood treatment and in the rectal insufflation group aerobic performance was improved, when no influence on anaerobic workout in lactate concentration over 4 mmol/l showed up. Those effects and the relative economization in aerobic training seems to base on ozone effects in intracellular metabolism as well as a better utilization of free fatty acids.

Especially endurance sports and athletes who need a high level of O<sub>2</sub> turn over could probably take some profit of ozone treatment without side effects that could occur with other therapies. In general it showed up, that the positive influence in very well trained person was less than in those who had lower endurance levels. That probably depends on the just optimized intracellular metabolism which develops after several years of training.