It is known that training at high altitude increases exercise performance. However, some abuse was found in training at high altitude. Now, a new way is being explored to search for increased capacity of exercise. To know the effects of intermittent hypoxia on exercise performance, a hypobaric chamber was used to conduct the study. A total of 10 athletes (5 males and 5 females) participated in this study. The experiment was conducted at a simulated altitude of 1800m. Training involved performing 2 or 3 workloads in the chamber for 2 hours. All subjects were involved in the experiment for multiple intermittent hypoxia training sessions.

The study determined the blood lactate, work, and maximal heart rate and oxygen saturation for all sports on the same day. The Review Board on Human Experiments, Shanghai Institute of Physiology, approved this study.

The results show that blood lactate decreased significantly (from 9.45±1.3 mmol/l to 6.67±0.7 mmol/l, p<0.01) after performing some workload of 5 male athletes after intermittent hypoxia training. Rest oxygen consumption also decreased from 4.3±0.05 ml/kg/min to 3.6±0.15 ml/kg/min (p<0.05). At maintaining some distance work, blood lactate and maximal heart rate of 5 female athletes decreased from 14.24±1.7 mmol/l to 9.39±1.0 mmol/l (p<0.05) and from 182±1.5 to 177±1.0 beats/min (p<0.05) respectively. The study suggested that the athletes of row can decrease blood lactate and increase capacity of performance after intermittent hypoxia. Hypobaric intermittent hypoxia training may be the best way for athletes exercise.