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description

An increase in altitude leads to a proportional fall in the barometric pressure, and a decrease in atmospheric oxygen pressure, producing hypobaric hypoxia that affects, in different degrees, all body organs, systems and functions. The chronically reduced partial pressure of oxygen causes that individuals adapt and adjust to physiological stress. These adaptations are modulated by many factors, including the degree of hypoxia related to altitude, time of exposure, exercise intensity and individual conditions. It has been established that exposure to high altitude is an environmental stressor that elicits a response that contributes to many adjustments and adaptations that influence exercise capacity and endurance performance. These adaptations include an increase in hemoglobin concentration, ventilation, capillary density and tissue myoglobin concentration. However, a negative effect in strength and power is related to a decrease in muscle fiber size and body mass due to the decrease in the training intensity. Many researches aim at establishing how training or living at high altitudes affects performance in athletes. Training methods, such as living in high altitudes training low, and training high-living in low altitudes have been used to research the changes in the physical condition

in athletes and how the physiological adaptations to hypoxia can enhance performance at sea level. This review analyzes the literature related to altitude training focused on how physiological adaptations to hypoxic environments influence performance, and which protocols are most frequently used to train in high altitudes.

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