

A Comparison of Cardiovascular Adaptations Between High and Low Altitudes

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ABSTRACT

As you ascend to a higher elevation, atmospheric pressure decreases. This is, followed by a decrease in the supply of oxygen. If someone has not acclimated at altitude, then they can suffer some symptoms of acute mountain sickness, HAPE (High Altitude Pulmonary Edema), and HACE (High Altitude Cerebral Edema). Acclimating at altitude is important for the body to physiologically adapt to the surrounding environment and to help with an increase in oxygen saturation, a lower heart rate, and lower blood pressure. The purpose of this study was to determine if living at high or low altitude would affect oxygen saturation. The subjects were 19 males who were considered "physically fit." Ten subjects lived at high altitudes (no lower than 5,280 feet above sea level) and 9 subjects lived at low altitudes (no higher than 709 feet above sea level). It was predicted that the subjects that live at higher altitudes will have a higher oxygen saturation rate than the subjects that live at a lower altitude. The results supported the prediction; the ten subjects that lived at high altitude displayed an average of 93.78% SpO₂ and those that lived at lower altitudes displayed an average of 89.79% SpO₂.