

## FAST FACTS

# Altitude training

## Hypoxic Training

### What

Altitude training, otherwise known as hypoxic training, involves undertaking cardio exercise in a reduced oxygen environment, that mimics training at higher altitudes.

Altitude training is often used by endurance athletes to improve performance by stimulating the body to adapt to the lower oxygen environment and improve aerobic capacity and the muscles ability to efficiently use oxygen.

### How it works

During exercise there is an increased need for oxygen in the muscles. In response the heart rate and respiratory rate increase to more efficiently transport oxygen to the cells and remove waste products, the heart and breathing rates continue to increase until they reach their maximum capacity to transport oxygen, known as the VO<sub>2</sub>max.

In a lower oxygen environment, heart and breathing rates reach their maximum, but there is insufficient oxygen to achieve VO<sub>2</sub>max, leading to a moderate state of cellular hypoxia (low oxygen). In response to this controlled stressor, the body increases blood flow to the muscles in an attempt to get more oxygen in, and also releases erythropoietin (EPO), a potent hormone that increases red blood cell production. More red blood cells means more oxygen carrying capacity at normal atmospheric oxygen concentrations, thus increasing aerobic capacity and exercise endurance.

### Learn more

[Healthline | Altitude Performance Centre](#)  
[South Pacific Health Clubs - Altitude 88](#)



### Pros

- Improved exercise endurance
- Improved VO<sub>2</sub>max and aerobic capacity
- Improved lactic acid tolerance in the muscles
- Improved energy levels
- Less muscle fatigue during exercise

### Cons

- Altitude training requires a commitment to consistent training over weeks or months to achieve optimal aerobic capacity
- Initially some people may experience symptoms of altitude sickness such as nausea, vomiting, headache, or fatigue. Consistent, regular training will help to overcome these symptoms

### Contraindications

People who have been diagnosed with diabetes, heart or lung conditions, or those who have low iron levels or anaemia should consult their doctor before undertaking altitude training.