Fact Sheet: Altitude Sickness

At high elevation, you may experience a potentially life threatening condition called altitude sickness. This is exacerbated if you ascend in elevation quickly. At 8,000 feet, there is only ~75% of the available oxygen at sea level. Oxygen decreases ~3% with each 1000 feet in elevation. Altitude sickness is caused by the body not being able to get enough oxygen. There are three types of altitude sickness: Acute Mountain Sickness, High Altitude Pulmonary Edema, and High Altitude Cerebral Edema.

Symptoms

- **Acute Mountain Sickness**
  - Lack of appetite, nausea, or vomiting
  - Fatigue
  - Dizziness
  - Insomnia
  - Shortness of breath upon exertion
  - Nosebleed
  - Persistent rapid pulse
  - Swelling of hands, feet, and/or face

- **High Altitude Pulmonary Edema (HAPE)**
  - Symptoms similar to bronchitis
  - Persistent dry cough
  - Fever
  - Shortness of breath even at rest

- **High Altitude Cerebral Edema (HACE)**
  - Headache that does not respond to medication
  - Difficulty walking
  - Altered mental state (confusion, changes in alertness, disorientation, irrational behavior)
  - Loss of consciousness
  - Increased nausea
  - Blurred vision or retinal hemorrhage
Prevention

- If your hike starts at high elevation, spend a few days adjusting to the altitude prior to any major physical exertion.
- It is best to sleep no more than 1,500 feet (457.2 m) higher than you did the night before. This helps the body adjust gradually to the decreased amount of oxygen.
- Contact your primary care physician for an evaluation prior to travelling to areas with high elevation.

First Aid and Treatment

- If you have any of these symptoms at altitude, assume that it is altitude sickness until proven otherwise. Do not ascend any further with symptoms.
- Acclimatization is possible for mild cases. However, if symptoms worsen, descent is the best option. Descend to the altitude where the victim last woke up symptom free.
- Keep the victim warm and hydrated.
- For HAPE and HACE descend immediately, even if at night, delay could be fatal.
- For HAPE and HACE seek medical attention immediately, even if symptoms subside upon descent.

References and Additional Resources

- [Altitude.org](http://altitude.org) Resources for altitude sickness, an oxygen-altitude calculator, and cautionary tales.
- Adapted from [Altitude Sickness Fact Sheet](https://essr.umd.edu/documents/fact-sheets), by University of Maryland: Department of Environmental Safety, Sustainability & Risk with permission.