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