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SHOULDER, KNEE & SPORTS MEDICINE

Altitude Sickness

Altitude sickness, also known as “acute mountain sickness,” occurs when someone travels to a high altitude, usually 8000 feet above sea level (Mexico City at 7,394 ft., Denver, CO at 5,280 ft.). It affects approximately 25% of people and symptoms usually begin 12 to 36 hours after arrival and improve within 1 to 2 days after people acclimate to the higher altitude.

The air at high altitudes contains less oxygen than at sea level, requiring your body to work harder to get the needed oxygen. After several days, your body adapts to the new level of oxygen in the air. Many people who are physically fit assume they won't get altitude sickness because they are in good shape; however, some people will get altitude sickness regardless of their condition.

Risk Factors

- Sudden travel to high altitude without time for acclimation
- Dehydration (not drinking enough water)
- Heart disease
- Smoking
- Diabetes
- Anemia (low blood count)
- Drinking alcohol
- Chronic lung diseases, such as asthma
- For higher altitude climbers (above 3000 feet), ascending more than 1000 feet per day can be risky. Climbers often climb higher but descend to a level no more than 1000 feet above their previous day height to sleep.



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Frequent Signs and Symptoms

- Malaise (Flu-like symptoms)
- Headache
- Fatigue
- Weakness
- Loss of appetite
- Nausea
- Vomiting
- Trouble sleeping
- Difficulty breathing
- Confusion
- Disorientation
- Loss of balance
- Difficulty seeing clearly
- Coughing up pink-colored phlegm
- Shortness of breath

Prevention

- Gradual introduction to higher altitudes and activity at higher altitudes allows the body to acclimate by producing more red blood cells to carry more oxygen from the lower concentration in the air (in your lungs) to the rest of your body.
- Begin your climb into the mountains slowly.
- Gradually ease into your physical activity by taking it slow the first day or two.
- Spend a few days at a base camp to acclimate.
- For higher altitude climbers (above 3000 feet), do not ascend more than 1000 feet per day. Climbers often climb higher but descend to a level no more than 1000 feet above their previous day height to sleep.
- Stay well hydrated and drink plenty of fluids, such as water or sports drinks.
- Avoid drinking a lot of alcohol, coffee, or tea.
- Avoid smoking.
- Avoid taking sleeping pills.
- Avoid medications that may make you urinate more frequently and cause dehydration; if any have been prescribed for you, check with your physician before discontinuing the medication.
- Your health care provider may prescribe medications (Acetazolamide) to help prevent altitude sickness.
- Take the medication before you get to a high altitude. Continue to take it while you are at the high altitude.



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Potential Complications

- High Altitude Pulmonary Edema, HAPE (fluid in the lungs), < 2% of people
- High Altitude Cerebral Edema, HACE (swelling of the brain), <1% of people
- Death. HAPE and HACE can be fatal.

Treatment Considerations

The most effective treatment for altitude sickness is to return to a lower elevation. If this is not possible, you may be given higher concentrations oxygen for 12 to 24 hours. Drink lots of water. Your health care provider may prescribe medications such as acetazolamide (Diamox). If your symptoms go away at a lower altitude, you may try to return to a higher elevation after your body adjusts, usually 1 to 3 days. Both types of high-altitude edema (pulmonary edema and cerebral edema) are very serious and can be fatal. If you have had either, you should not return to the higher altitude until you have been medically released to do so by a properly trained medical professional.



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