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SOME ARE DRAWN

to the beach, and others adore the mountains. If you're among the latter the following tips will help you from feeling low while you're rising to the heights.

Visiting Mexico City: 7,550 feet. Viewing the Grand Canyon: 8,000 feet. Skiing in Colorado: 8,000 feet, with some slopes rising even higher. Driving up Pike's Peak: 14,000 feet. At these elevations acute mountain sickness, or AMS, is a real possibility, and some may even experience symptoms requiring prompt medical treatment. Here is what you should know:

- ***AMS is not due to less oxygen in the air***—The percentage of oxygen remains the same, 20 percent, whether atop Mount Everest at 29,000 feet, its Base Camp at 17,500 feet (*see related feature in this issue*), or at sea level. But as you go higher atmospheric pressure decreases. There is less force to propel the oxygen from the air into the lungs and blood stream.

- ***Know the altitude of your destination***—You need not be atop a mountain to be at high altitude. For example, the Grand Canyon and Mexico City are both at high altitude. Altitude is especially an issue at night because breathing is much less efficient during sleep. For mountainous activities, "climb high, sleep low."

- ***Choose destinations where medical treatment is available***—Many high altitude locations are remote and lack medical facilities, and weather conditions can prevent descent.

- ***Ascend slowly***—About 30 percent of people show symptoms of AMS after rapid ascents of 5,000 feet or more. The percentage increases the higher the altitude reached. Ideally, stay overnight at an intermediary elevation when going from near sea level to 8,000 feet or higher. Driving to high altitude destinations is better than flying because it takes longer, thus facilitating acclimatization

- ***Recognize symptoms of AMS***—Signs include headache, fatigue, loss of appetite, nausea, vomiting, irritability, excessive shortness of breath with exercise, and inability to sleep. Symptoms generally begin between 18 and 72 hours after arrival. Similar symptoms occur with upper respiratory and intestinal infections. If you are not sure, think AMS and act accordingly.

- ***Take the time to adjust to altitude***—Avoid strenuous activities the first day. Never ascend further when AMS-like symptoms are present. If symptoms are mild, remain at the altitude where you are. Resume ascent after a symptom-free 24 hours. Staying dry and warm helps prevent AMS, hypothermia, and frostbite.

- ***Consume snacks and drinks frequently***—More calories and liquids are required to compensate for cold and exertion. Dehydration increases the risk of AMS, hypothermia, and frostbite. Don't wait for thirst; it is not a good indicator of need. Drinking replaces fluids lost to dry air by heavier breathing and by perspiration under heavy clothing.

- ***Breathe through facemasks and scarves in cold weather***—Sore throats and coughs are common at higher elevations, probably the result of deeper respirations. This causes mouth breathing, allowing more cold, dry air to bypass the warming and humidifying effects of breathing through the nose. Exertion and cold weather further increase the depth of breathing. Indoors, humidifiers and steam inhalation may be beneficial.

- ***Be familiar with treatments***—Descents of 1,000 feet generally relieve symptoms. Seek medical help when descent is not feasible, or symptoms worsen. Oxygen and medications may be necessary. Headaches generally respond to aspirin, ibuprofen, and acetaminophen. Increased fluid intake also helps relieve headaches; dehydration can be a factor. Headaches that do not respond promptly may be early signs of more serious altitude-related problems.

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- ***Travelers with significant heath issues need clearance before going to altitude***—Severe anemia and heart and lung problems, for example, increase the risk of AMS. Simple tests help predict safe elevations.

One way to determine whether someone is suffering from AMS, or the degree to which they're afflicted, is to download the Lake Louise AMS Worksheet from the High Altitude Medicine Guide Web site (*see sidebar*). This presents eight ranked questions to ask the potential patient, including; whether they have a headache; gastrointestinal tract difficulties; fatigue and/or weakness; dizziness and/or lightheadedness; and difficulty sleeping. The final three questions, of a clinical nature, involve mental condition, ataxia—heel to toe walking, in other words—and peripheral edema, or swelling due to fluid retention.

Individuals with poorly controlled seizure disorders, or those who had seizures in the past but are no longer on medication, may be at increased risk of seizures. Asthma sufferers generally do well in mountains, often better than at home, probably because of the clean air. Nevertheless, they should continue their medications. AMS is also known as high altitude cerebral edema, altitude anoxia, altitude sickness, mountain sickness, and high altitude pulmonary edema.

AMS Online

High Altitude Medicine Guide
www.high-altitude-medicine.com

Climbing High Guide
www.climbing-high.com

Healthline
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Swedish Medical Center
www.swedish.org/111650.cfm