

High Altitude Sickness -- Information you need to know *before* you go

What is Altitude Sickness? Altitude Sickness (AS) is a medical condition with symptoms ranging from mild discomfort to fatal illness that may occur at higher altitudes. It affects everyone to some degree, including the most experienced and fit individual, and occurs most commonly at altitudes above 7000 feet elevation, but could occur at lower elevations. Altitude sickness symptoms range from a mild headache to much less common very serious cerebral or pulmonary edema (excess fluid in your brain or lungs). *Rapid onset of symptoms, worsening symptoms or symptoms persisting longer than 48 hours will require immediate evacuation to lower altitudes.* Symptoms vary, but may include the following:

Mild AS: Mild headache – relieved with ibuprofen or aspirin, mild fatigue, dizziness, insomnia, shortness of breath on exertion, increased respirations and heart rate, slight nausea with little or no vomiting, loss of appetite.

Moderate to Severe AS: Increased headache – not relieved with ibuprofen or aspirin, irritability, nausea, persistent vomiting, moderate fatigue, shortness of breath with exertion, irregular breathing at night.

Cerebral or Pulmonary Edema: This is a rare but life-threatening stage, and is almost always preceded by minor symptoms first. Symptoms include severe respiratory distress, shortness of breath even at rest, gurgling in lungs, lack of coordination, staggering gait, drowsiness, confusion, and loss of consciousness. Immediate descent to a lower altitude combined with medical care (and oxygen, if available) is imperative.

Who is susceptible? Anyone of any age planning to travel to high elevations. The following risk factors increase the likelihood of getting altitude sickness:

1. Ascending too fast or not allowing enough time to acclimatize.
2. Pre-existing illness* – specifically those affecting your circulation or breathing.

*NOTE: Individuals with certain conditions will need specific *evaluation* by a physician prior to going on any Maranatha project that includes travel to high elevations. These conditions include but are not limited to:

- *Individuals with:* hypertension, diabetes, obesity, asthma, history of heart attack or stroke. Individuals with these conditions ***should obtain specific clearance from their physician to participate on projects involving high elevation travel***
- *Individuals with any of the following conditions **should not travel to high elevations** for Maranatha projects:* any moderate to severe cardiac or pulmonary disease such as congestive heart failure, chronic obstructive pulmonary disease, or unstable coronary artery disease.

When does it occur? Altitude sickness can occur at any time if you ascend too fast, if you do not allow yourself enough time to acclimatize (flying directly into a high elevation), or if you have pre-existing medical conditions that limit your body's ability to compensate. Symptoms may be felt immediately upon arrival or within a few hours of arrival at a high elevation. Symptoms may come and go, and can appear with increases in elevation. Individuals respond differently, and should expect to have some illness upon any travel to high elevations. Symptoms are relieved by *decreasing your elevation.*

Where does it occur? Altitude sickness occurs where travelers ascend to high altitudes. Some people feel the effects at lower altitudes as well. Because Peru has many high elevation destinations, travelers to Peru commonly experience some form of altitude sickness. Symptoms can occur at the work site and/or while on excursion.

Why does it occur? The physiology of altitude sickness is still not completely understood. The basic issue is that with increasing altitude there is a progressive decrease in barometric pressure and a corresponding decrease in the amount of oxygen you inhale. This results in less oxygen being delivered to your body and vital organs. Over time, your body tries to compensate and if successful the symptoms disappear or are reduced. If your body is unable to compensate, you need to descend.

To Prepare For Your Trip To Peru Maranatha Recommends:

- Under the advisement of your physician, start preparing before you go to Peru by engaging in an exercise regimen designed for high-altitude excursions.
- Make an appointment with your doctor or a medical specialist to discuss and evaluate your physical condition and your risks regarding altitude sickness.
- Plan time to acclimatize into your schedule. Arrive at your site on Friday morning and rest through Saturday evening. Begin light work on Sunday.
- Know your destination elevation. Make informed decisions. Plan accordingly. Take time to acclimatize at high elevations. (Puno & Lake Titicaca are 12,560 feet, Cusco is 10,500/11,000 feet, Sacred Valley is 8,850 feet, Machu Pichu is 7,970 feet, Arequipa is 7,661 feet while Lima is only 505 feet. The average elevation in Peru is just over 5000 feet.)
- Learn to identify the symptoms and be willing to admit that you have them. Help others to take the necessary precautions to avoid serious illness.
- Do not continue to ascend to a higher altitude if symptoms persist. If there is no improvement, descend to a lower altitude, by at least 300m/984 ft.
- While in Peru, drink plenty of water and eat healthfully.
- Carry some ibuprofen or aspirin for your personal use during the trip.
- Contact the Centers for Disease Control for more altitude sickness information at: www.cdc.gov/travel/diseases/altitude.htm

IMPORTANT NOTE: Every participant on a Maranatha project involving travel to high elevations is required to sign a consent form prior to your departure to Peru. This form is on the project application. If for some reason you did not have access to the form, contact your Project Coordinator or the Maranatha office at 916-774-7700 to obtain a copy.

Acknowledgement Form for Individuals Traveling to Peru for a Maranatha Mission Project

Altitude Sickness:

According to the Centers for Disease Control and Prevention (CDC), visitors traveling to destinations higher than 8,000 feet above sea level are at risk for altitude sickness due to the low oxygen levels found at the high altitudes.

Symptoms of altitude sickness range from mild cases of headache, dizziness, shortness of breath, and nausea to more severe cases of extreme fatigue and cerebral or pulmonary edema. Certain medications and preexisting medical conditions including lung or heart disease, asthma, diabetes, and pregnancy can put you at a higher risk for altitude sickness. However, even otherwise healthy individuals can feel mild symptoms due to the lack of oxygen. Symptoms that do not improve could require evacuation to a lower elevation. The best course of action is to take it easy and not over exert in the first few days. Visitors should discuss the trip with their personal physician prior to departing.

For more information about high altitude sickness, visit <https://wwwnc.cdc.gov/travel/page/travel-to-high-altitudes>

Acknowledgement:

I hereby acknowledge that the Maranatha project that I am participating in has destinations located at or above 8,000 feet. I also acknowledge the health risks associated with travel to high altitudes.

Sign and return this form to Maranatha Volunteers International or to your Project Coordinator.

Printed Name: _____

Immediate Family Members Also Attending:

Signature: _____

Project Name: _____

Date: ____ / ____ / _____

Maranatha Volunteers International / 990 Reserve Dr., Suite 100 / Roseville, CA 95678 916.774.7700
Tel / 916.774.7701 Fax / www.maranatha.org