

Altitude Sickness

Whether we're coming up to our own property or welcoming friends and family for a visit, we all need to be alert to the possibility of us or our loved ones suffering from altitude sickness, also known as Acute Mountain Sickness. Altitude sickness typically occurs when people travel to above 8,000 feet without giving their body time to adjust. Given that Red Feather Lakes is at about 8,200 feet and Crystal Lakes properties lie between 8,500 and 9,500 feet, altitude sickness is a distinct possibility for anyone not used to this area. People coming to visit you may experience it, as might you (even if you've never had it happen to you before when you came up the mountain), and it can run the gamut from uncomfortable to life-threatening, so it's important to know how to recognize it and what to do.

As we move higher in altitude, the air pressure decreases, lessening the amount of oxygen we get with each breath. Our bodies react to not getting enough oxygen by constricting blood vessels in an attempt to force more oxygen-bearing blood to our brain and other organs. This increases blood pressure, which can cause headaches, dizziness, nausea, and at the more extreme end of the reaction, temporary damage to the lungs or brain that can become both serious and permanent if it's not treated quickly. Your age, gender, and level of physical fitness have no effect on whether or not you're likely to experience altitude sickness—young, physically active people are just as susceptible as older, more sedentary ones—and not having previously experienced it on trips up to altitude doesn't mean you won't this time. Altitude sickness occurs in up to half of all people who travel above 8,000 feet, and 75% of those who travel to areas above 10,000 feet will experience at least mild symptoms.

Mild altitude sickness usually begins 6 to 24 hours after arriving at altitude, and symptoms often worsen overnight. Symptoms include:

- Fatigue
- Headache
- Shortness of breath
- Rapid heartbeat
- Dizziness
- Muscle aches
- Trouble sleeping
- Loss of appetite
- Nausea and vomiting
- Swelling of the face, hands, and feet

These symptoms may lessen in a day or two, as your body adjusts, and may be ameliorated by the treatments below without need of additional medical intervention. However, if symptoms either start out more intense or worsen over time and include the following, this is a medical emergency and you should call 911 immediately.

- Extreme fatigue and/or weakness
- Shortness of breath, even when resting
- Coordination problems/difficulty walking or doing regular activities
- Severe headache
- Severe nausea and vomiting
- Coughing and chest tightness or congestion

For mild to moderate symptoms, the following may help:

- Return to a lower altitude. This is the best thing you can do to treat mild altitude sickness. Moving down to a lower altitude removes the stress the body is under due to the lower pressure and oxygen levels.
- Rest (if symptoms are mild, simply staying at the same altitude and taking it easy may resolve the issue).
- Hydrate.
- Do not drink alcohol or take any sedatives (for insomnia) or opiates (for pain). These will worsen your condition. Ibuprofen is safe to take for the headache and muscle pain.

If you choose to stay at altitude and see if your symptoms clear up, do not try that for longer than 24 hours. If you don't feel any better by then, you need to head down and see a doctor. If your symptoms worsen in any way, either head down immediately or call 911. Also, under no circumstances should you move to a higher altitude unless your symptoms have completely disappeared (it typically takes 2 to 3 days for your body to acclimate).

In addition, anyone experiencing symptoms that might be altitude sickness should tell the people they're with about their symptoms. Altitude sickness symptoms mimic many other conditions, so you might not be certain that's what's going on, but it's imperative that the people around you know that it's a possibility because altitude sickness can affect the brain and keep you from thinking clearly. You need to tell other people that you're feeling off while you're capable of clearly communicating exactly how you feel so they can be alert to any worsening of your condition.

As I mentioned above, altitude sickness can lead to life-threatening conditions if it's severe or allowed to progress past the initial stages. The following are emergency situations that require medical intervention – call 911 immediately!

High Altitude Cerebral Edema (HACE) happens when lowered oxygen levels cause swelling in the brain. It may follow mild altitude sickness symptoms or occur on its own and can happen rapidly over just a few hours. Because of how it affects brain function, people suffering from HACE may not realize they're ill and often insist they're okay and just want to be left alone. Symptoms include:

- Severe headache
- Weakness
- Loss of coordination
- Disorientation, confusion, memory loss
- Irrational behavior
- Hallucinations
- Unconsciousness
- Coma

High Altitude Pulmonary Edema (HAPE) happens when the lower barometric pressure at high altitude causes a build-up of fluid in the lungs. Symptoms may start to appear a couple of days after arrival at altitude and are not always preceded by other altitude sickness symptoms like headache. HAPE can be subtle at first, but it accounts for the majority of deaths from altitude sickness, so pay attention if you or a guest experiences any of the following:

- Dry cough, low-grade fever, and fast heart rate and/or difficulty catching your breath while at rest. (These are early symptoms.)
- A feeling of tightness in the chest
- Extreme fatigue
- Persistent cough (especially one bringing up pink or white frothy liquid)

- Trouble breathing
- A blue tinge to the skin or lips
- Confusion/irrational behavior

If you or a guest are experiencing any of the symptoms for HACE or HAPE, call 911 immediately!!

Things you can do (and can advise visitors to do) to avoid altitude sickness:

- Come up to altitude slowly. This is the most important thing you can do. It typically takes our bodies a couple of days to get used to a significant change in altitude. That means that visitors to Colorado, especially those coming from sea level, should spend at least 24 hours down on the flats before coming up the mountain. Generally speaking, people become more susceptible to altitude sickness anytime they ascend more than 1600 feet in one day (the exception would be those of us who live at altitude and might climb more than that on our way home—we're not immune to it but we are less likely to experience it when returning to the altitude we usually sleep at).
- Stay well hydrated. You need more water at higher altitudes anyway, and even mild dehydration makes you more susceptible to altitude sickness.
- Avoid strenuous exercise for the first 24 hours; however, light exercise may actually help ameliorate symptoms, so taking a gentle walk may be useful.
- Avoid smoking.
- Avoid alcohol, sedatives, and narcotics for the first 24 to 48 hours at altitude—these can lower your breathing rate and make altitude sickness significantly worse.
- If you have underlying heart or lung issues, a condition like anemia, are pregnant, or have previously suffered from altitude sickness, see your doctor before coming up to altitude. There are some medications that may either prevent or lessen symptoms.

Additional considerations for children: Children in general—and babies under six weeks of age in particular—are more susceptible to altitude sickness, so talk with your doctor if you're bringing a wee one up the mountain. Children also aren't as good at recognizing or describing symptoms as adults (and altitude sickness symptoms are easily confused for other things), so watch for signs they're not feeling well and consider heading down the mountain to see if they improve if you're not sure what's causing their lethargy and other symptoms.

Anytime you or a guest comes up to Crystal Lakes, altitude sickness is a possibility. Know the things you can do to help avoid it (for example, it's not a good idea for guests to fly into Denver from sea level, drive up the same day, and go out for a beer that night), the signs and symptoms, and when to call for help.