**UIAA Medical Commission**

Factsheet on Altitude Sickness

## What is altitude sickness?

Altitude sickness is an "umbrella term" and includes 3 components: Acute mountain sickness (AMS) which is essentially headache and nausea at about 3000m or more and is a benign illness. Both high altitude pulmonary edema (HAPE) and high altitude cerebral edema (HACE) are the life threatening forms of the illness and are essentially water collection in the lungs or water collection in the head respectively. The mainstay of treatment for altitude sickness is descent.

## Does hydration prevent altitude sickness?

At present there is very little data to show that hydration per se influences susceptibility to altitude sickness. However it is a bad idea to be dehydrated in the mountains as symptoms of dehydration (headache and fatigue) mimic the symptoms of acute mountain sickness. By the same token you should not overhydrate by drinking fluids excessively as low sodium levels (hyponatremia) may result. If severe, hyponatremia may lead to mental status changes.

## Does physical fitness prevent altitude sickness?

Although it is a good idea to be fit when going to high altitude, there is no evidence to show that physical fitness protects a person from altitude sickness. In fact people who are very fit (marathon runners, for example) seem to be more susceptible to altitude sickness as they may "challenge" themselves much more than the common man at altitude. Excessive exertion is a risk factor for altitude sickness.

## Does drinking alcohol cause problems at altitude?

It may because alcohol can depress your breathing, and since hyperventilation is the cornerstone of acclimatisation, any substance (another example are sleeping pills) that inhibits breathing should be avoided. In addition alcohol may cause dehydration and mimic symptoms of acute mountain sickness.

## Should I take diamox (acetazolamide) when going to high altitude?

People need to ascend in stages letting the process of acclimatisation work on their bodies. Taking drugs in the mountains needs to be avoided. However for people flying to high altitude locations like La Paz, Bolivia or Lhasa Tibet, or for rescue missions at high altitude (both instances where there are no chances for acclimatisation), taking diamox (125 mg bid) prophylactically may make sense if there is no history of allergy to the drug.

## Why do some people from a similar age and background suffer from altitude sickness while others do not even while ascending at the same rate to high altitude?

This is an intriguing question. Some people may be more predisposed to this illness than others, possibly genetic predisposition may play a role. It is important to look after your companion on ascent to high altitude.

## Is diarrhea a part of altitude sickness?

No it is not. Many of the high altitude regions are in developing countries where gastroenteritis (diarrhea) is a common problem due to poor hygiene. It is important to make sure that you are drinking clean water, eating well cooked food and washing your hands with soap to avoid this common misery. Diarrhea

is more common than altitude sickness in the mountains of the developing world.

## What would be a safe ascent rate at high altitude?

Usually after 2700m, not to climb more than 400m from the previous night's sleeping altitude would be a reasonable recommendation. Climbing high and sleeping low may help in the acclimatisation process, but it is important not to overexert yourself while trying to accomplish this. A rest day after every two days of gain in altitude may also help. Above all else it is very important to "listen" to your body as you ascend and not push yourself even while following these rough guidelines.

## What are "risk factors" for altitude sickness?

A prior history of altitude sickness even when ascending gradually at high altitude is the best known risk factor. Climbing too high too fast (see question 8) and excessive physical exertion are definitely risk factors. Drinking excessive amounts of alcohol, using sleeping pills, certain medical conditions like chronic lung disease (for example fibrosis, emphysema) and ongoing respiratory tract infections may all predispose to altitude sickness. Well controlled hypertension, diabetes, and even stable coronary artery disease do not of themselves predispose to altitude sickness.

## I tend to get up very often at night at high altitude with a "choking sensation" causing me to be very anxious. What can I do?

This phenomenon is probably due to excessive "periodic breathing" at altitude and often leads to an anxiety attack. This is a common problem. Reliable data has shown that low dose acetazolamide (125mg before dinner) may decrease these spells of periodic breathing in sufferers and bring the oxygen levels higher and do away with the choking sensation.