

HEALTH HAZARDS OF HIGH ALTITUDE

Health and fitness are a vital issue when travelling at high altitude – whether trekking or touring by jeep. With care and sensible precautions the vast majority of people adapt relatively quickly and painlessly and thoroughly enjoy the ‘rarefied’ experience of travelling in remote and high mountain country with its unique landscapes, peoples, cultures, flora and fauna. And few trekkers or travellers ever get to open their medical kits. There is therefore no reason to be alarmed or intimidated by what follows. However, one must always be aware of the potential dangers and make adequate preparations. Above all never underestimate the mountains and never challenge the weather. It is therefore essential that you read the following paragraphs carefully and fully understand the potential risks of travelling at altitude and take careful note of the precautions necessary. While you will be accompanied on trek or other travels by experienced guides it is advisable that you are yourself aware of the hazards as also of safeguards and antidotes.

Preparation: Persons with chronic medical illness like High BP, Heart ailments, Lung diseases, dental problems must take extra – precautions and take doctor’s advise, while travelling in high altitude areas. Remember that altitude and exertion amplify all ailments and aches.

Health Insurance: This is a must! While most health insurances cover you against sickness they may not cover emergency evacuations. If you are trekking your insurance must cover this.

Immunisations: India does not require any of these but we advise you to consult your GP or travel clinic for up to date advice. However, please do not ignore your anti-malaria pills just because you are traveling to cold regions. These must be taken.

Acute Mountain Sickness (AMS) can occur to anyone traveling to altitude above 1000 meters though there are tremendous individual variations with some people being more susceptible while others may be more resistant and has nothing to do with physical fitness. In fact it is often seen that younger, fitter people push themselves too hard too quickly and are more prone to getting sick.

Acclimatization is the best preventive for AMS. Above 3000 m the body undergoes many physiological changes some of which are immediate like increased pulse and respiratory rates and others more gradual such as changes in the red blood cell count and ph levels. These changes coupled with intense sunlight, dehydration and fatigue from hard walking can lead to the onset of AMS.

It is important to be alert to the onset of AMS. The most common symptoms are

Headaches

Disturbed sleep

Loss of appetite

Nausea, Coughing

Shortness of breath

Interrupted breathing while asleep followed by gasping (Cheyne-Stokes breathing)

Lassitude and lack of concentration.

These symptoms are self - limiting, if one takes adequate precautions. However, you must immediately inform your travel partners and guide if you feel any of these symptoms.

Severe AMS is the accumulation of fluid (oedema) in the lungs which causes High Altitude Pulmonary Edema (HAPE) or in the brain which causes High Altitude Cerebral Edema (HACE)

either of which is life threatening and requires immediate medical attention. Adequate facilities do exist in the local hospital in Leh, for treatment of such cases.

Symptoms for HAPE

Any of the symptoms described for mild AMS and:

- ❖ **Shortness of breath which persists at rest (more than 15 breaths per minutes)**
- ❖ **Coughing – often with frothy blood-stained sputum**
- ❖ **Severe fatigue & drowsiness**
- ❖ **Pains in chest and upper body**
- ❖ **Wet sounds in the lungs on deep inspiration – place your ear on the bare skin of the patients back below the shoulder blades and compare with a healthy person.**

Symptoms of HACE

Any of the symptoms described for mild AMS and:

- ❖ Severe headache – often does not respond to mild painkillers and is aggravated by lying down.
- ❖ Nausea and vomiting which may become pronounced and prolonged
- ❖ Loss of co-ordination – inability to do the heel to toes walking test.
- ❖ Loss of mental abilities – memory, arithmetic, etc.
- ❖ Double, blurred or failing vision

Bear in mind that night time is the period of particular danger for people suffering from AMS. Sleeping normally lowers the respiratory rate and Cheyne-Stokes periodic breathing can exacerbate the lowering of the oxygen level in the blood. A common pattern is for people to go to sleep with mild AMS and develop a severe form during the night and partners/doctors/companions have to be particularly vigilant. Immediate removal to lower altitude of the patient is essential along with specialist medical attention.

Prevention.

Complete rest for the first 24hrs after arrival is absolutely essential. Any kind of physical exertion or exercise is to be avoided. You should also avoid Smoking and Drinking till you get acclimatized. Take plenty of liquids as dehydration occurs quickly in the dry air and sweat may occur unnoticed; avoid sedatives.

Drug therapy: The process of natural acclimatization as outlined above is certainly the best way for your body to get used to the high altitudes. However if you take the drug **ACETAZOLAMIDE** (Diamox) in 250mg doses twice daily for 2-3 days before coming and continue this for 5-7 days, it would help you prevent Acute Mountain Sickness. Please remember that even if you take Acetazolamide (Diamox), you must take complete rest for the first 24hrs after arrival. There is no substitute for natural acclimatization.

Common ailments – especially for trekkers

Blisters! The commonest of ailments that can substantially detract from your enjoyment. Make sure that your boots are well worn in and that carry adequate quantities of trekking socks and that you have tried these out and are happy with them. They make an enormous difference. Always carry a spare pair in your day-pack.

Knee pain: As we get older we get more familiar with this one. Remember that there will often be very steep descents – especially if you are trekking in the Eastern Himalayas which tend to be

a bit more precipitous than the western end. Carry a walking pole, strap-on or tubular support. Take short steps and make sure your heel hits the ground before the toe.

Cuts & Scratches: Don't take these lightly. Clean them and keep them dry without a dressing if possible.

Chafing: Sometimes a problem in groin, armpits, elbows or backside. Wear well rinsed soft cotton underwear and apply Vaseline.

Sun: At these altitudes sunburn, sunstroke and heatstroke are serious possibilities. A joke in the Himalayas is that a person lying half in shade and half in sun can get sunburn and frostbite at the same time! Remember that sudden changes in weather are common and you must always be prepared for this. Always wear a hat in the sun, use high SPF sun cream and a barrier cream for nose and lips and carry lip balm always and use moisturising cream for hands etc.

It is easy to forget how much moisture you are losing at these altitudes so make a conscious effort to drink constantly. Check your urine. If it is concentrated and in small quantity your fluid intake is inadequate. Other symptoms of dehydration are weakness and thirst passing to dizziness or fainting. Dehydration and salt deficiency can cause heat exhaustion. In extreme instances you can suffer from heatstroke characterised by high body temperature, severe throbbing headaches, lack of co-ordination and confused and aggressive behaviour leading to delirium and convulsions. In this case get the victim out of the sun, get clothes off and cool off the body using wet towels and try and get fluid into them if they are conscious.

Cold: Sudden drops of temperature are a common phenomenon in all mountain country and especially so at high altitudes. This is the basic weather that any traveller must be prepared for and in such an instance it is highly unlikely that you will suffer from hypothermia. However, it is best to understand this. Hypothermia occurs when the body loses heat faster than it can produce it and core body temperature falls. Symptoms of hypothermia are exhaustion, numb skin – toes and finger – shivering, slurred speech, irrational or violent behaviour, lethargy, stumbling, dizzy spells, muscle cramps and violent bursts of energy. In the case of hypothermia get the person into a warm, dry place and remove all wet clothing and replace it with warm dry clothing. Give them hot liquids – no alcohol – and some high energy easily digestible food. Do NOT rub victims – instead allow them to warm up naturally.

While all our trek staff carry first aid kits, if you are on a long trek you may wish to carry one yourself. Recommended supplies are:

- adhesive tape
- bandages with pins
- elasticised support bandages for knees, etc
- gauze swabs
- nonadhesive dressings
- small pair of scissors
- sterile alcohol swabs
- paper stitches
- sticking plasters – blister plasters
- sutures
- syringes
- thermometer – non mercury
- tweezers

Medication:

- AMS tablets
- Anti-diarrhoea and anti-nausea drugs
- Anti-biotics – prescribed by your doctor for you. Do NOT offer your anti-biotics to others
- Antifungal cream or powder
- Antihistamines
- Antiseptic cream
- Calamine lotion/aloe vera
- Cold & flu tablets; throat lozenges and nasal decongestant
- Painkillers
- Eye drops
- Insect repellent
- Rehydrant mixture

Carry your personal medicine box, containing the medicines you take usually take. Make sure you have at least one spare pair of prescription glasses if you wear these.