



HEALTHY IN THE HIGH HIMALAYA

A GUIDE TO ENJOYING YOUR MOUNTAIN ADVENTURE

www.himalayanclub.org

Hill after hill was climbed
And now behold,
The last tremendous brow,
The great rock that none has trod,
A step,
And now all is sky and God.

- Sri Aurobindo
Poet; Freedom Fighter; Philosopher.

ENJOY THE HIMALAYA SENSIBLY



This booklet has been written by people who enjoy being in the Himalaya and care about the preservation of its fragile environment. They would like the people who live in them to enjoy a proper quality of life. They are also concerned with the things one should do to stay healthy and well at high altitude.

Please treat the contents of this booklet as a guideline based on current knowledge.

Anyone travelling beyond the lower foothills of the Himalaya is advised to consult with their doctor before going, to avoid the unpleasantness of getting ill at higher altitudes.

WHY THIS BOOKLET?



As George Band, ex - President of The Alpine Club, put it a while ago, today's cheap flights bring the Himalaya to one's doorstep. And with visiting the Himalaya getting easier – people are going there in greater numbers than ever before. To hill stations, on pilgrimage, to pursue adventure sports and travel, or just to get away from it all. And the legendary Abode of the Gods welcomes all, regardless of their reason. But as the high Himalaya becomes equally the preserve of experienced mountain climbers and a destination for less experienced travelers, who can now get higher much quicker with the plethora of adventure and travel agencies offering their services, the risk of getting altitude-related ailments is increasing.

But much is preventable with relatively straight - forward precautions, which should not come in the way of anyone's enjoyment of the Himalaya. This booklet aims to provide some basic information to help recognise and address these ailments, and simple guidelines on conducting oneself so that many can continue to enjoy these wonderful mountains.

WHAT IS HIGH ALTITUDE?

An excellent question! In this booklet, we talk about going anywhere above 2000 m.

Our bodies, used to operating in our 'normal' environment that may be far from the mountains, need to start adjusting when we move higher.

Altitude starts to have an effect around 1500 - 2000 m. And because the air pressure is getting lower and the air itself thinner, the body begins to behave differently as it tries to make up for the change in oxygen levels. Go up too fast to about 2500 m, and it is quite common to start feeling worse.

If one allows the body enough time, most people could adjust to altitudes even slightly higher than the 5000 m, that the Base Camp of Mount Everest stands at. But above 5500 m, few people can adjust comfortably any more. Health and abilities begin deteriorating.

As you go higher and higher, each breath you take means there will be less oxygen for your body. Oxygen is needed to give you the energy to move, but is also needed simply to keep your body alive – for your brain and digestion to work, for healing

cuts, and all those normal things your body does without your knowing about it.

As your body gets less oxygen it adjusts. You breathe faster and deeper. It takes more red blood cells to carry more oxygen. But these changes take time.

If you go slowly you should stay healthy. Go up too fast and you risk suffering from altitude related illnesses, such as Acute Mountain Sickness (AMS).

9000 m	Death Zone	Everest ▲ 8850 m
8000 m		
7000 m	Extreme Altitude	Stok Kangri ▲ 6100 m
6000 m		
5000 m	Very High Altitude	Amarnath ▲ 4175 m
4000 m		
3000 m	High Altitude	Leh ▲ 3505 m
2000 m		
1000 m	Sea Level	
0 m		

ACCLIMATIZE INTELLIGENTLY



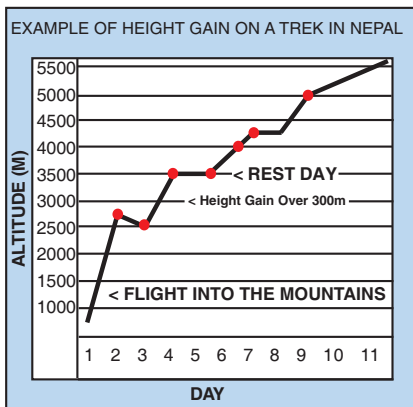
When the body slowly adjusts to lower oxygen levels the process is called acclimatization. Different people acclimatize at different speeds so, while no one rule works for everyone, there are good guidelines.

Once over 3000 m go up slowly, sleeping no more than 300 m higher at the end of each day. Going higher during the day is fine as long as you go down to sleep (walk high -'sleep low').

If you go up higher and can't descend - take a rest day to allow your body time to 'catch up'. This may seem very slow, and some people will comfortably be able to go up much faster, but in a group someone will always be the slowest to acclimatize - and the timetable should be made to keep them healthy. A rest day scheduled after every 2 to 3 days will also help.

Driving or flying to high altitude also means you are ascending too fast increasing the risk of AMS. It is really sensible to find out about the height of your planned route before you travel. Better still, make a drawing to show the height that you will sleep at each night.

If you don't know - ask. There's no better or easier way to spot the days which are likely to cause altitude illness.



ALTITUDE DOES AFFECT!



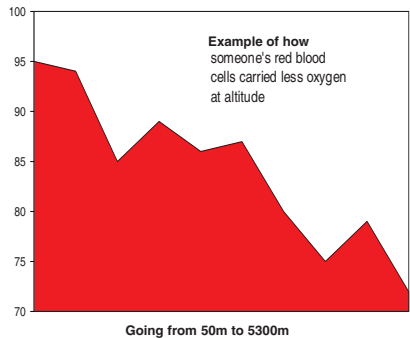
Acept that most people going high will need to deal with altitude related illness in some way. It is key to handle it quickly and correctly. Catching it too late, or dealing with it incorrectly, can lead to serious problems.

Be honest about how you feel each day as understanding what is happening in your body could save your life. And strange things do happen to your body as you go higher! Having a headache, vomiting, being out of breath, sleeping badly and not feeling hungry are all common symptoms of AMS. AMS is uncomfortable, but not life-threatening. If the AMS symptoms become severe and you keep going higher, fluid in the brain (High Altitude Cerebral Oedema - HACE) or fluid in the lungs (High Altitude Pulmonary Oedema - HAPE) can occur and these can actually kill you very quickly.

What people don't realise is that you'll need to urinate more, your balance may become unsteady, your eyesight could change and your nails will grow differently.

The following pages can help familiarise you with some of the things you may experience and how best to deal with them. Some are mainly about comfort, but some can lead to long-term damage to health or, in extreme cases, even death.

Learning about what your body is doing as it goes higher is fascinating and can become part of the fun of travel! In fact, when you think how clever your body is at dealing with such big changes, you may want to know even more!



ACUTE MOUNTAIN SICKNESS (AMS)

The common symptoms for AMS

- Headache
- Nausea (feeling sick)
- Vomiting (being sick)
- Fatigue (feeling tired)
- Poor appetite (not hungry)
- Dizziness
- Sleep disturbance



It's good if everyone keeps a log of how they feel while travelling (copy the sheet on the next page) and share this with the others in the group honestly. Everyone can help make decisions - to go up, to have a rest day, or to go down. As a group, everyone's health and happiness is equally important.

Hiding illness, or the extent of your discomfort, could result in your being pushed beyond your limit. This could be fatal. Some people just seem to acclimatize slowly, and need to take things more gently.

If you are unfit it doesn't mean you are more likely to suffer, but overdoing it might be risky. If you are unused to exercise, feeling tired while trekking is not surprising. Similarly, if you are sleeping in a tent every night and are not used to it, your sleep may be poor.

The food may also be very different.

The most important question is whether the symptoms are getting better or worse, if you think you are getting worse - walk down (at least 500 to 1000 m lower for sleeping). Give your body extra time to acclimatize. Don't leave this decision until it's too late.

Before you go:

- Learn about the symptoms of AMS.
- If you plan to use Diamox, learn all about it's side-effects and try one at home to find out how you feel!
- Check you are not allergic to Diamox (a sulphonamide).

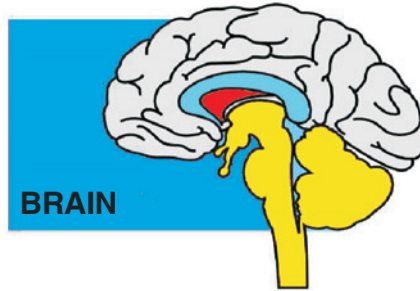
AMS SCORECARD

Symptoms		Total
Headache	None	0
	Mild	1
	Moderate	2
	Severe/ incapacitating	3
Guts / Stomach	Good appetite	0
	Poor appetite, nausea	1
	Moderate nausea or vomiting	2
	Severe/ incapacitating	3
Fatigue / Weakness	Not tired or weak	0
	Mild fatigue / weakness	1
	Moderate	2
	Severe / incapacitating	3
Dizziness / Light-headedness	None	0
	Mild	1
	Moderate	2
	Severe /incapacitating	3
Difficulty Sleeping	As well as usual	0
	Not as well as usual	1
	Woke many time, poor night	2
	Could not sleep at all	3

AT ALTITUDE

- If you have a headache and a score of 3 or more for the others on the score above, do not go any higher.
- If you went higher and still have a headache, and a score of 3 or more for the others above and have got no better or, perhaps got worse go down!

YOUR BRAIN IS PRECIOUS!



The lower oxygen levels available to the body at higher altitudes can affect the brain. An insufficient supply of oxygen can cause cells and neurons in the brain to die. Also, fluid leakages from brain cells into the cranial cavity can cause the brain to swell resulting in High Altitude Cerebral Oedema (HACE).

HACE can kill very quickly if not treated. Some people may feel few effects, while others may suffer any (or all) of the following:

Headaches: very common at altitude, especially if you suffer headaches or migraine at home.

Co-ordination: balance may be affected. Older people and those who are acclimatized feel less effect. 'Clumsiness' and impaired judgement increase the risk of accidents.

Mood changes: unduly bad days can trigger disappointment and victims sometimes deny anything unusual is happening at all.

Stroke: developing sight or speech problems and / or a weak arm, leg or face are signs of a stroke. (Some migraine sufferers have similar effects during an 'aura').

Before you go:

- Learn the signs of HACE & stroke.
- Prepare medical supplies.
- Consider expectations / fears and who will support you on bad days.

At altitude:

- Headache (AMS) avoid triggers dehydration, exhaustion, alcohol treat with painkillers.
- Stroke - treat with half a 300mg aspirin & descend. You need to see or consult a doctor.
- Be honest about how you feel.

HACE (HIGH ALTITUDE CEREBRAL OEDEMA)

The main signs are :

- Severe headache
- Become clumsy
- Act differently - unhelpful, violent, lazy
- May have bad, non-stop vomiting
- Blurred vision
- See, hear, feel, smell odd things
- Confused
- Reduced consciousness

Can the affected person :

- Lift his/her index finger to touch the nose with closed eyes, and repeat rapidly?
- Walk heel to toe in a straight line?
- Stand upright, with eyes shut and arms folded?
- Do simple mental maths?

If not able to do, or have difficulty doing any of the above, suspect HACE. HACE can develop very quickly with no other problems or can follow AMS and HAPE.

At altitude:

- Walk slowly.
- Take plenty of rests.
- It's not a competition! Some people adapt better than others.
- Do not ignore signs of HAPE. Seek medical help if possible and, if in doubt, **DESCEND!**

What to do:

- Stay with the person at all times do not leave them on their own.
- Descend now - not later or in the morning.
- Sit them upright and keep them warm.
- Give oxygen via cylinder or pressure bag if you have one.
- Give dexamethasone if you have it.
- Give acetazolamide if you have it.
- If really unable to descend - prolonged use of a pressure bag may be needed.

Consequence if ignored:

Loss of consciousness, confusion, drowsiness.

Reduced breathing. DEATH.

In serious cases death can occur within as little as an hour of symptoms being noticed.

YOUR LUNGS CONTROL YOUR BREATHING!



Because the air is thinner at high altitude there is less oxygen available so breathing gets deeper and quicker to compensate. This 'acclimatization' helps you cope with the altitude better. Being more short of breath for the same exercise as at sea level is normal.

Other changes occur in the blood, which you will be less aware of, allowing the blood to carry more oxygen to where it is needed. People often develop a dry cough at altitude. It is not entirely clear why this happens, but whilst irritating, it is not usually serious.

Occasionally more serious problems can occur with breathing. Fluid may collect in the lungs causing a problem known as 'High Altitude Pulmonary Oedema' (HAPE). Symptoms include severe breathlessness at rest and frothy bloodstained spit may be coughed up.

People who have had HAPE are likely to get it again, often at the same altitude. This is a serious (potentially life - threatening) condition and should not be ignored.

Before you go:

- Exercise regularly, preferably the type planned at altitude; don't be short of breath due to unfitnes!

To repeat:

- Walk slowly.
- Take plenty of rests.
- It's not a competition! Some people adapt better than others.
- Do not ignore signs of HAPE. Seek medical help if possible and, if in doubt, **DESCEND!**

HAPE (HIGH ALTITUDE PULMONARY OEDEMA)

HAPE can develop in 1 - 2 hours over several days and even when descending.

Consequence if ignored:
Breathing stops. DEATH.

The main signs:

- Trouble breathing.
- Tired & weary.
- Coughing.
- Froth and later blood in spit.
- Lips, tongue, nails become blue.

What to check for:

- Has there been recent ascent?
- Does it take a long time to get breath back after exercise?
- Are they breathless when resting?
- Is the breathing rate increasing?
- Can 'wet' / crackling sound be heard in the chest? Put ear to back below shoulder blades.

What to do:

- Stay with the person at all times - do not leave them on their own.
- Descend now - not later or in the morning.
- Sit them upright and keep them warm.
- Give oxygen via cylinder or pressure bag if you have one
- Give nifedipine if you have it.
- Give acetazolamide if you have it
- If really unable to descend - prolonged use of a pressure bag may be needed.

An estimated 40,000 Indian pilgrims visit Mt. Kailash and Lake Manasarovar every year, usually in a great hurry to go up and return as quickly as possible. Some fly to Lhasa and then drive, while the vast majority drive from Kathmandu, reaching the base of Mt. Kailash within 4 to 5 days. Some even take a helicopter up from Nepalgunj. Since such a schedule allows little time for proper acclimatization, many pilgrims die each year as a result of altitude-related illnesses like HACE and HAPE as they are unable to return to a lower altitude quickly enough. They forget that the Tibetan Plateau stands at an average altitude of between 4000 – 4850 m!

YOUR FEET GIVE YOU A GOOD TREK!



Your feet make the difference to enjoying a trek, hike or a mountain climb. They will be subjected to a lot of pressures from the type of terrain, the length of your hike, the type of shoes and socks you are wearing, and the weight of anything you carry - impacting your feet upto 1.5 or even 2 times your body weight. Steeper and or more uneven the trail, higher will be the pressures. And just the physical strain of trekking itself can generate over a cup of moisture per foot!

So plan your footwear carefully - invest in the best type of shoes to provide you appropriate traction, stability and arch support that money can buy!

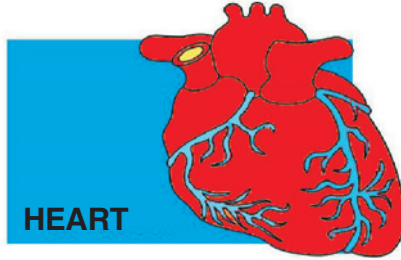
Make sure you try out your shoes carefully for fit, with the socks you are actually going to use. The fit must be comfy but not too tight as, whether it is a walking boot for steep uneven trails

or a lighter walking shoe for less rough going, your toes will tend to come up against the shoe when walking downhill. If you are going to be walking in wet conditions buy water-proofed shoes. Break your shoes in by training in them extensively before your trip.

Now, to your socks! They can make the difference between comfort or blistered feet! Wear a good sturdy pair of hiking socks over inner socks of material that wick away moisture from the surface of your sweaty foot.

Blisters develop from friction on the skin of your feet causing fluid to build up underneath your skin - utilize rest stops to dry your feet, and change your socks if wet! At day's end, wash your feet properly and dry well. Carry bandaids, liniment and dressings to address the blisters you do get!

TREAT YOUR HEART WITH CARE!



Travelling to altitude can have several effects on your heart. The lower oxygen in the air and exercise you are doing can make your heart beat faster. This is not normally a problem, but a heart condition (like angina), can put extra strain on your heart.

Your blood pressure may go up a small amount at altitude, but this effect is not normally noticed.

One of the effects of altitude is for your body to produce more red blood cells (so your blood can carry more oxygen). This can sometimes lead to the blood thickening, making the circulation sluggish. With this in mind, you should make sure you drink plenty of fluids.

If you have a known heart problem (such as an irregular heart beat, high blood pressure, have had a heart attack, angina or have had surgery on your heart, you should talk to your doctor to make sure that what you are planning is not going to put undue strain on your heart.

If you take medicines, make sure you take plenty with you. If you are healthy then travel to altitude will not put any more strain on your heart than rigorous exercise at sea level.

People with inherited sickle cell problems are at risk and should avoid going to altitude.

Before you go:

- Get as fit as possible.
- Try higher levels of exercise at home before you try them at altitude.
- Make sure you have all your medications / prescriptions.

At altitude:

- Walk slowly, don't race.
- Take plenty of rests.
- Drink plenty of fluids.
- If you have any problems, stay at that altitude, don't go higher.
- If problems persist then descend.

YOUR STOMACH IS DELICATE TOO!



You may lose your appetite at altitude and AMS may make you feel sick.

Changing food may also affect appetite or cause what are famously known as 'the runs'! Many altitude trips are in areas where water and sanitation are poor, so the risk of 'the runs' is higher.

Prevention is better than cure. Bottled water and even water filters can be unreliable. Iodine is the best, unless you have thyroid disease or are pregnant.

If you do get 'the runs', keep hydrated by drinking plenty of purified water or rehydration solution. Traveller's diarrhoea is likely to be caused by bacteria so antibiotics may be needed.

If you have indigestion or piles at home,

see your doctor well before travelling. Piles can be a misery at altitude. With indigestion, avoid indigestion causing painkillers. Milky drinks, curd or yoghurt may soothe the problem.

Before you go:

- Plan how to get clean water so you are not afraid to drink plenty.
- Take rehydration sachets or know how to make up your own.
- Find out about traveller's diarrhoea and how to treat it.
- Have a group plan for disposal of toilet paper 'in the field' before you set out on the trip.

At altitude:

- Drink plenty.
- Take some snacks to eat if you are off food.
- Always wash your hands.

YOUR KIDNEY/BLADDER DRIVES YOUR BODY



As you acclimatize, your body will naturally make more urine. This is a good sign, but you may find yourself urinating more during the day and at night.

Exercise in the dry air and heat of altitude can cause dehydration, which can be made worse by traveller's diarrhoea. Thirst, headache and fatigue are often signs of dehydration which can be prevented by drinking several litres of safe fluid per day.

Urinating at least four times a day, with a good volume of clear urine, shows that your body is receiving enough fluid.

Frequent and painful urination in small volume can be a sign of dehydration (cystitis). If it does not settle after drinking two litres of fluid, you may have a urinary infection, needing antibiotic treatment.

Older men develop enlargement of their prostate glands as a natural matter of course, increasing the frequency and urgency in passing urine at sea level! At altitude this can lead to painful retention of urine. If in doubt, get checked by your doctor well before you travel.

Before you go:

- Buy a suitable bottle for night use.
- Ladies should consider a suitable container. A product called a 'Shewee' is sold abroad but may not be available in India.

At altitude:

- Keep hydrated! Keep hydrated! Keep hydrated!

YOUR MUSCLES/ JOINTS DO THE HARD WORK!



An adventure holiday can bring new aches and pains. Getting fit before you leave will help make your trip more enjoyable.

Strengthening exercises, particularly for your leg muscles, will help you. While you are unlikely to be at higher risk of joint pain purely from being at high altitude, improved muscle strength will give your joints better support.

This will be particularly beneficial for your knee joints. The increased muscle support can be even more useful than support bandages or braces. Using two trekking poles while walking will help reduce the load on your knee joints, particularly while walking downhill.

As an added bonus, the exercise will also help you reduce a little weight if you need it. Try to minimise the load of your backpack. Use a pack with a good hip belt to distribute the load better.

Before you go:

- Do exercise and walk for at least a month before you go.
- Your training regimen should exercise your legs and body core, with a cardio workout to increase heart rate to improve circulation.
- If you are going to use trekking poles as suggested, get used to them before you leave.

At altitude:

- If your joints or muscles start to hurt, slow down, lighten the load, and / or consider a rest day.
- If you normally have joint pains, make sure you take your regular painkillers with you.
- The temperature can be colder - make sure you have enough layers to stay warm.

YOUR SKIN WILL BE PUNISHED!



Trekking or traveling to higher altitude puts your skin under strain and risk because the air is drier and there are higher levels of UV radiation.

You can tan on a beach but up in the mountains in the middle of nowhere, your skin will get roasted! To say nothing of those with sensitive skins who could contract severe skin problems. Your skin needs some good basic protection.

Since it is the only barrier you have against various micro-organisms from entering your body, do maintain basic hygiene standards. Carry some kind of sun block or a skin moisturizer. If you have nothing else, even toothpaste or animal / vegetable fat from foodstuffs can be used!

Wear a suitably wide-brimmed hat at all times and protect your extremities from the sun and the cold.

Swelling around the hands, face and ankles at altitude is fairly common but is not normally serious.

Before you go:

- Get sunscreen (SPF 15-30).
- Get warm gloves, socks, hat, boots.

At altitude:

- Keep hands and feet dry, change wet gloves / socks quickly.
- Apply sunscreen / block.
- Cover up from sun / cold / wind.

SEEING SAFELY - LOOK OUT FOR YOUR EYES!



The high level of UV radiation at altitude can burn the eyes if they are not protected – your eyes can feel as if they have sand in them. Good sunglasses are necessary even when it is cloudy – UV gets through clouds! On glaciers or snow-covered mountains goggles will be required.

The sun goggles should be designed for use at higher altitudes and, if you need them, fitted with prescription lenses. Check with your specialist about use of contact lenses - since strict hygiene is usually a must with their use which can be difficult at altitude on a trek. Daily disposable lenses are fine but must be removed at night.

Be careful if you've had any laser refractive surgery just before going on your trip as your vision can get blurred at altitude.

Descend if you lose vision in either eye at high altitude.

Before you go:

- Get glacier goggles / glasses.
- Sort out contact lenses and cleaning fluid.
- If you need glasses, get spares.

At altitude:

- Wear your goggles when it is bright.
- If you lose your goggles improvise using cardboard with thin slits to look through.
- Make sure staff have goggles and wear them.
- Maintain hygiene if using contacts.

A young man who used daily disposable soft contact lenses during an attempt on Mount Everest did not change them for 4 consecutive days. On summit day he wore sun glasses, not goggles. By 8600 m his vision blurred and after summiting could no longer see or navigate and had to be helped down by 2 sherpas.

DON'T FORGET YOUR MOUTH / TEETH!



Your mouth and throat will get dry breathing through your mouth so you need to keep well hydrated. Use cough lozenges if necessary.

Do visit your dentist well before you travel, as painful teeth can ruin your trip.

The cold air at high altitude will upset untreated, broken fillings and cavities.

If you have a decayed cavity, then a lot of sugar can trigger urgent need of root-canal treatment or even extraction – impossible on an expedition!

Most teeth and gum infections can be helped for a short time with Amoxicillin and Metronidazole. You can also take Ibuprofen to reduce swelling.

Before you go:

- Dental check with x-rays at least 6 weeks before you travel.
- Buy zinc glacier cream for lips.
- Buy a chap stick.
- Buy cough lozenges.

At altitude:

- Drink lots to moisten mouth, lips and throat.
- Protect lips with zinc cream.
- Take antibiotics and ibuprofen for dental swellings and severe pain.

YOUR EARS / NOSE ARE EQUALLY SENSITIVE!



Ascending to altitude can increase problems to your ears and nose.

Be aware that sunburn and skin damage can be especially painful to your ears and nose, and changes in the inner ear from the cold can trigger dizziness and light-headedness, also symptoms of AMS.

And watch out for your blocked nose! Seemingly a minor hardship, this can upset the normal warming and humidifying process essential to keep the lungs healthy.

Failure to warm and moisten air when breathing in leads to a sore throat, persistent cough or in the worst cases, damage to the areas of the lung essential for the normal passage of oxygen.

Before you go:

- Ensure gloves have a soft, great absorbent patch over the thumb for wiping your nose!
- Pack tissues and wipes, high factor sunblock and barrier cream.

At altitude:

- Dizziness could be a sign of AMS.
- Wear a wide brimmed hat and use sunblock on ears, nose and inside of nostrils
- Use or improvise a nose guard on sunglasses.
- Blow your nose regularly.
- Use a barrier cream (e.g. Vaseline) to protect dried, cracked skin.

SLEEP, THE GREAT RELIEVER!



Expect to have disturbed sleep during your first few nights at altitude. This can take the form of slowness in getting to sleep, waking up a lot and feeling you have not slept well and therefore, unrefreshed.

As you acclimatize, sleep usually improves. However, keep note of this as, if it persists, it may be a sign you are not acclimatizing well.

You may also find you need to urinate more at night as you go higher, losing you more sleep.

Some people get ‘periodic breathing’ at night, where rapid breathing is followed by periods when breathing briefly stops, sometimes causing you to wake up. This is fairly common over 2800 m, and almost everyone gets it over 5000 m. This condition also should get better as you acclimatize.

Snoring may be made worse by dry, dusty air, but night-time blockage of the airway at sea level (‘obstructive sleep apnoea’) does not appear to get worse with altitude.

Before you go:

- Invest in your sleep comfort - a good quality sleeping bag and mat.
- Bring ear plugs to aid sleep.
- If being treated for obstructive sleep apnoea, check with a specialist sleep doctor.

At altitude:

- Expect to need more sleep.
- Consider avoiding caffeine and alcohol later in the day.
- If your sleep does not improve after a few nights do not go higher - consider going down to allow acclimatization

KIDS ARE SURPRISINGLY GOOD AT ALTITUDE



Children are hardier than we think, but because it is more difficult to detect the onset of problems with them, you have to be more careful.

Generally speaking, they have the same problems as adults do at altitude and you must ascend slowly with children.

Carefully observe what you are already familiar with in terms of their general fussiness, eating habits, playing and sleep patterns.

If these appear to be worse than usual, stay at the same altitude or descend until they are better.

Older children are generally able to describe how they are feeling.

Remember descent is the best treatment.

Before you go:

- Discuss your plans very carefully with your child's doctor a few months before leaving.
- Carefully consider all elements, just as we have been doing throughout this booklet.
- Plan with your organizers, both about help if your child became ill, and who would look after them if you got ill.
- Be sensible and go on the trip only if you have good answers for all the above.

At altitude:

- Treatment for children with AMS is much the same as for adults, except that children weighing below 40kg need smaller doses of medicines and prefer syrups.
- Do carry a card with child's weight, drugs they may be on and dosage.
- As usual descent if in doubt.

REMEMBER THOSE WHO TOIL FOR YOU!



If you (or your travel company) are hiring porters to help with your holiday, you are responsible for them. You must consider their health and safety – it is as important as your own.

Porters who have trekking jobs don't always live at high altitude all the time. They can suffer from altitude illnesses in the same way that visitors do.

In the past, ill porters were seen as 'useless' and were paid off and sent home. Many died as they went down alone. This is not right.

An International Porter Protection Group (IPPG) has set clear standards which all parties should aim to achieve. These include the provision of:

- Adequate clothing and footwear.
- Adequate shelter, food and drink.
- Medical care and life insurance.
- Care on descent if ill.
- Appropriate sized load to carry.

Questions to ask companies (or yourself)

1. Does the company you are thinking of trekking with follow IPPG's five guidelines on porter safety?
2. What is their policy on equipment and health care for porters?
3. What do they do to ensure that the trekking staff are properly trained to look after porters' welfare?
4. What is their policy on training and monitoring porter care by its local ground operator?
5. Do they ask about treatment of porters in their post - trek questionnaire to clients?

PILLS & POTIONS



It is sensible to carry certain basic medicines with you on a trekking trip since you will not be able to get them once you are there.

Some can ease some of your symptoms, while one or two could save your life!

Opposite is a brief list of drugs useful at altitude. Check with your doctor as to what you should take.

Check with your tour organizers as to whether your trip leader has any medical training and is carrying a separate stock of basic aid equipment.

Before you go:

- Buy your medicines before you leave, and don't rely on getting them locally.
- Confirm if you have any allergies, and how you should treat those.
- Carry your medicines labeled with their dosage in simple 'zip-lok' bags. If they are critical keep separate stocks in at least two places in case of loss.
- Washing tablets down with water helps them to be absorbed quicker into the body.

**Please check local brand names with your doctor or physician,
as these could differ from place to place.**

Problem	Drug	Dose
AMS Headache	Paracetamol And/or Ibuprofen	500 mg tab, 2 tabs 4 times/day 400 mg tab, 1 tab 3 times/day
AMS Nausea	Metrochloramide Or Prochlorperazine	10 mg tab upto 3 times/day 1 to 2 x 5 mg tabs upto 3 times/day or as recommended by doctor
AMS Prevention	Acetazolamide	Half a 250 mg tab 2 times/day started 24 hours before ascent
HACE	Oxygen Dexamethasone - Corticosteroid	Breathing continuously - cylinder or pressure bog 8 - 16 mg a day in divided doses, for up to 5 days
HAPE	Oxygen Nifedipine Acetazolamide	Breathing continuously - cylinder or pressure bog 20 mg MR tablet 2 times/day 250 mg tab, 1 tab 3 times/day
Diarrhoea	Ciprofloxacin Or Azithromycin Loperamide	750 mg twice/day Capsules taken daily for 3 days 2mg capsules taken up to 8 times
Dehydration	Electrolyte rehydration solution	In 200 ml of boiled and cooled water
Infections	Amoxicillin And/or Metronidazole	250 mg 3 times/day for atleast 5 days 200 mg 4 times/day or as recommended by doctor
Cough	Pholcodine	Linctus 10 ml up to 4 times a day
Sore throat	Lozenges with anaesthetic	e.g. Benzocaine
Dry chapped lips and skin	Lip balm and sunscreen	With atleast SPF 15 – skin section
Blocked Nose	Moisturiser cream Pseudoephedrine or Xylometazoline	60 mg 3 times a day Nasal spray
Cold sores	Aciclovir	5% cream 5 times a day for 5 days

ENJOY, EVEN WITH A CONDITION!



A pre-existing medical condition need not automatically bar you from a trek, even to high altitude, to enjoy a pre-dawn moment like this in the Himalaya. But you have to plan your trip carefully ahead to lower your health risk factor.

Have a detailed discussion with your doctor on your travel plans, the type of trip and the conditions under which you are traveling. With these, he will be able to advise you as to what precautions you should take or whether he feels you should not travel.

On the trip you will be undertaking heavier exercise than perhaps you normally do, it will be much colder up there and you will be at higher altitude. Test whether any of these could trigger any worsening of your condition. Your diet also may need to be planned very carefully.

Once on the trip you should keep a daily diary about your medicine usage and how your condition feels each day. If there is any worsening ensure your trip leader and your companions know about it immediately - honesty is the best policy here!

Diabetics, asthmatics, those with a heart condition, high blood pressure, a lung condition or those prone to allergies should heed these suggestions carefully.

Ensure that your medication and any equipment that you need is near you at all times. Understand what you need to do under emergency conditions and, once again, ensure your trip leader and your companions know about your condition and if it is changing through the trip.

PROTECT THE HIMALAYA!



As you enter the beautiful mountains, remember that you are a guest in a natural environment that has existed for hundreds and thousands of years, subject only to the vagaries of the natural elements. And be conscious that, as more of us travel further and higher, we have begun to play a greater role in the chain of environmental damage.

Just as you must create a high degree of harmony within your trekking or climbing group to get the most out of your trek - so must you be in harmony with the beautiful natural surroundings, and you must leave them that way when you leave.

You would not leave food to rot nor would you defecate in your own home, so ensure that you do not litter the trails you walk. Take all garbage out of the mountains for appropriate disposal.

Pay particular attention to beverage cans, whose aluminum is highly toxic; to cigarette butts and matches that can start forest fires; sanitary wear, batteries and empty bottles, and all of which contaminate the environment. Also never do anything that can pollute water sources, streams and rivers.

Himalayan communities are typically very hospitable and will stretch their own precious resources to make a 'guest' happy. Try and buy your food where it is plentiful, rather than deplete their meagre resources.

Ask your travel organiser and trip leader as to how they plan to minimise the environmental impact of your trip - and what you can do to contribute to this effort. Do interest yourself in how and what the travel organisers do, or do not do, to make all their trips more environmentally friendly.

ABOUT US



The Himalayan Club is a heritage institution, dedicated since 1928, to travel and exploration in the Himalaya. Increasingly it is devoting itself to the evermore pressing need to pay attention to the Himalayan mountain environment and the needs of mountain communities. Towards these ends, it offers its highly respected publication The Himalayan Journal and its online Newsletter to extend knowledge on the Himalaya. Based in India, its membership extends around the globe. It has strong associations with all major mountaineering clubs in the world including the Alpine Club, The American Alpine Club, The Japanese Alpine Club The UIAA among others.

As part of its ongoing programmes for disseminating information, the Himalayan Club has put together this Booklet to assist and guide those heading up to higher altitudes.

The Himalayan Club would also like to thank the organization '**MEDEX**' for allowing us to use their excellent book about high altitude illness "*TRAVEL AT HIGH ALTITUDE*" as the inspiration for this booklet and the medical guidelines contained within.

This booklet was put together by Viraj Karnik, Sukeshi Sheth and Vijay Crishna using the photographs of Sukeshi Sheth, Bhrigubir Singh, Deepak Bhimani, Suman Dubey and Vijay Crishna.

Visit us at our website at: <http://www.himalayanclub.org> for more information about our activities. Other useful information can also be found at the MEDEX website: <http://www.medex.org.uk>

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Not greed, not fame
Must draw man to the woods and hills
And sacred places.
Not noise and trash wastes
But only memories must mark his visit
To the Holy places.

- Charles Houston
Physician; Mountaineer; High Altitude Investigator.

Planning the trip of a lifetime,
a holiday with a difference,
skiing in the high mountains or a
mountaineering expedition?

This booklet is written to help you
enjoy your time in the mountains
by understanding how you need
to cope at the higher altitudes
with the thinner air there.
Understand that serious altitude-
related illnesses still kill many
each year who are unaware of
the risks.

Be prepared and enjoy your trip!!



THE HIMALAYAN CLUB

314, Turf Estate, Shakti Mills Lane,
Off. Dr. E. Moses Rd., Mahalakshmi, Mumbai - 400 011.
Tel : +91 - 22 - 2491 2829