AQUATERRA
ADVENTURES

CHADAR - THE FROZEN ZANSKAR RIVER TREK

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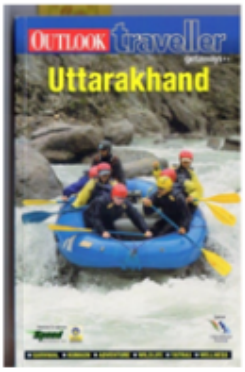

CHADAR TREK: INTRODUCTION

Ladakh lies in the eastern half of the state of Jammu & Kashmir in the far north of India. It shares its much disputed north western border with Pakistan, while to the north lies the Chinese province of Xinjiang, and to the east, Chinese occupied Tibet. It covers an area of approximately 60,000 sq. kms, ranging from 2600 metres to 7670 metres in elevation, Ladakh is sandwiched between two mountain systems – the Karakoram to the north and the Himalayas in the south. Ladakh can basically be divided into five geographical regions – Central Ladakh (the heartland of the Indus valley), Nubra (lying to the north of the Ladakh range), Rupshu (a dry, high altitude plateau lying in the south-east of Ladakh, Zanskar (one of the highest inhabited regions in the world) and western Ladakh or Lower Ladakh (around Kargil).

Zanskar – a remote valley in Ladakh is the fabled “Land of White Copper” - a land of glaciers and extreme cold, snow leopards and the ibex, black wolves and the rare Himalayan blue poppy, and of spirits and monks. At an average altitude of over 13,000 ft, the strange aspect of this valley is that it has no entrance. The two rivers that flow in it meet to carve a gorge so long and deep that one cannot travel down it to enter or exit the region. The only way out is crossing the Zanskar range of mountains, through high passes that are closed eight months in a year.

This gorge of the Zanskar therefore, remains un-trekkable during the summer when the snow melt sends the river raging, but forms a corridor of ice in winter which serves as the only way, albeit dangerous, out of the Zanskar valley.

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FACT SHEET

DURATION OF TREK: 12 Days
REPORTING POINT: Leh Airport
GRADE OF TREK: Challenging

ACCOMMODATION

DAY	ACCOMMODATION	MEAL PLAN
DAY 1-3	LEH GUEST HOUSE - Kanglachan or Similar	ALL INCLUSIVE
DAY 4-10	TREKKING CAMP	ALL INCLUSIVE
DAY 11	LEH GUEST HOUSE	ALL INCLUSIVE
DAY 12	LEH AIRPORT DROP	BREAKFAST

ITINERARY CHART

DAY	START POINT	END POINT	DISTANCE & TIME
DAY 1	LEH AIRPORT	LEH GUEST HOUSE	DRIVE 5 KM
DAY 2&3	LEH	LEH	DRIVE 30 KM
DAY 4	LEH	CHILLING & BAKULA	DRIVE 60 KM TREK 3-4 HRS
DAY 5	BAKULA/DIBYONGMA	TIBB CAVE	TREK 5-6 HRS
DAY 6	TIBB CAVE	NYERAK	TREK 6-7 HRS
DAY 7	NYERAK-HANUMIL	NYERAK	TREK 8 HRS
DAY 8	NYERAK	NYERAK	LOCAL EXPLORATION
DAY 9	NYERAK	TIBB CAVE	TREK 6-7 HRS
DAY 10	TIBB CAVE	BAKULA/DIBYONGMA	TREK 5-6 HRS
DAY 11	BAKULA/DIBYONGMA	CHILLING-LEH	TREK 3-4 HRS DRIVE 60 KM
DAY 12	LEH GUEST HOUSE	LEH AIRPORT	TRIP ENDS!

CHADAR TREK: DETAILED ITINERARY

DAY ONE: LEH AIRPORT - LEH GUEST HOUSE

Meet on arrival in Leh and transfer to hotel. Day free to acclimatise. Overnight guest house on full board.

DAY TWO & THREE: LEH - ACCLIMATIZE

Acclimatize and half day sightseeing of monasteries. Overnight guest house on full board.

DAY FOUR: LEH - CHILLING - START TREK TO BAKULA

Transfer by jeep on a tarmac road till Chilling. Then drive on jeep track for a few kilometers at Guru Do before starting the trek. Overnight camp by the river.

DAY FIVE: BAKULA/DIBYONGMA

Trek on the frozen river. Overnight camp at Tibb cave.

DAY SIX: DIBYONGMA-NYERAK

Walk on frozen river. Overnight camp at Nyerak.

DAY SEVEN: NYERAK - HANUMIL - NYERAK

We walk up the river valley from Nyerak, and upto a very steep canyon where we have lunch. Return to Nyerak by evening. It's a lovely day in the canyon!! Camp.

DAY EIGHT: NYERAK

Visit the Nyerak village, its monastery and spend a day watching winter village life at work.

DAY NINE- ELEVEN: TREK TO CHILLING AND DRIVE TO LEH

Return trek to Chilling in 3 easy days. Board the waiting vehicles at the road head a little upstream of Chilling to be driven to the Guest house in Leh. Overnight Guest House.

DAY TWELVE: LEH AIRPORT DROP

Early morning transfer to the Leh airport to board the flight back to Delhi.

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CHADAR TREK: COST BREAKDOWN

COST INCLUDES

ALL TRANSFERS AS PER THE ITINERARY (LEH AIRPORT TO LEH AIRPORT)
GUEST HOUSE ACCOMMODATION IN LEH FOR 4 NIGHTS ON TWIN SHARING FULL BOARD BASIS.
GUIDED SIGHTSEEING OF MONASTERIES FOR HALF DAY AT LEH WITH AN ENGLISH SPEAKING GUIDE.
TRANSPORT TO CHILLING (ROAD HEAD) AND RETURN TO LEH AT THE BEGINNING AND END OF THE TRIP BY BUS/JEEPS.
CAMP AND KITCHEN EQUIPMENT, FUEL AND FOOD FOR THE DURATION OF ICE TREK.
STAY CHARGES IN ZANSKARI HOMES WHERE APPLICABLE.
GUIDE, COOK AND ZANSKARI PORTERS FOR THE DURATION OF ICE TREK FROM LEH TO LINGSHED AND BACK. WE CATER FOR CARRYING UP TO 20 KILOS OF PERSONAL BAGGAGE PER MEMBER INCLUDING THE SLEEPING BAG.

COST EXCLUDES

ANY FLIGHTS
SLEEPING BAG
ANY TRANSFERS OR MEALS OUTSIDE OF ITINERARY
BOTTLED WATER
ITEMS OF PERSONAL CLOTHING
EXPENSES OF ANY PERSONAL NATURE (LAUNDRY / PHONE CALLS / ALCOHOL / CIGARETTES / INSURANCE / CAMERA FEE / ETC.)
ANY EXPENSE INCURRED DUE TO FORCE OF NATURE SUCH AS LANDSLIDES, BAD WEATHER OR REASONS BEYOND OUR CONTROL
TIPS & GRATUITIES (WE RECOMMEND 5-10% OF YOUR TRIP COST- TO BE DISTRIBUTED AMONG THE TEAM) - PERSONAL CHOICE
TRAVEL & CANCELLATION INSURANCE

PLEASE NOTE

This day-to-day schedule above should be taken only as a general guide. Although we update our itineraries every year, to take into account such things as: changes to trekking routes and changes in the routing or availability of local transport, it is not possible to guarantee that any of our trips would run exactly according to the proposed itinerary. A variety of factors, including adverse weather conditions and difficulties with transportation, and the condition of the chadar (the frozen river surface) on this trek, can lead to enforced changes. The trip leader would make the necessary changes after consultation with the guests.

CHADAR TREK: TREK PREPARATION

This is very important – please read very carefully – it will help you immensely in readying for the trek.

What to expect:

Temperatures & climate : Average daytime temperature on the trek is -12 deg C and night time temperatures could drop to -25 / -30 deg C. However on clear sunny days it doesn't really feel that cold. It's only in the mornings and when there are winds do we feel the cold. You should be ready for inclement weather in any case as weather has become highly unpredictable and can change rather quickly at altitudes.

What to carry: Keep it light – although what you carry with you is a very personal decision. Some of our guests love to travel as light as possible while others are only happy when they have countless bits of equipment for every possible occurrence, most of which will never be used. The list we sent out covers all the essentials that you must carry.

What you are expected to carry during the day on the trail is a daypack - to carry things that you will need throughout the day, such as your camera, water bottle, packed lunch, sweets, rehydration powders, waterproofs, toilet paper, a fleece and a warm jacket. It may be also advisable to carry a small flashlight in your daypack, just in case.

Good footwear is very important – a high ankle waterproof boot is a must. Depending on the condition of the Chadar one could be required to wade through half a foot of water on top of the ice. Socks, both for walking and a pair of warm ones for keeping feet warm inside the tent at night, is a good bet. It's important to bring a broken in shoe than a brand new one which could cause severe blisters. Plastic mountaineering boots is another option, are great to walk on snow & ice but its hard for rock scrambling. They can be rented out in Leh, the request for rental should reach us a month ahead as most shops are shut in winters in Leh.

Clothes: A good base layer which could be a thermal top (polypropylene), with a T-shirt on top will keep you warm and dry. Mid layers provide insulation so anything that is warm will do e.g. a medium thickness woolen jumper or a mid-weight fleece top, along with another lightweight fleece top will suffice. If you really feel the cold, substitute the thinner layer with a down jacket. The outer layer is the final layer between you and the elements and must be capable of keeping out the wind, rain and snow. Any good waterproof, windproof jacket would do the job. Leg wear in the form of thermal long johns are invaluable. A good sun hat is very essential. Sunglasses which offer 100% UV protection are necessary to combat strong daylight.

A good quality sleeping bag ensures a good night's sleep after a long day outdoors. Do not compromise on your sleeping bag – err on the side of carrying a warmer bag, than carrying a light one which may give you many sleepless nights. Good down sleeping bags can be rented out in Leh, again the request should reach us early enough.

Carry any and all personal medication that you may need, and it's an absolute must to let us know well in advance should you be suffering from any particular ailment.

How to carry: Its best to carry your belongings in a large, tough duffel bag or a big rucksack. Pack similar things such as clothes, washing things, camping equipment etc. in separate stuff sacks or polythene bags

so they are easier to pull out and add to the waterproofing in your bag. Your main bag should be a tough one as it will be on mule back, not the best place to be for a fragile backpack.

Altitude considerations: Travel to any part of the Indian Himalayas deserves a little more respect than many other high altitude destinations because most of the regions lie over 2600 meters (8500 ft). People in good health should not get alarmed by this but if you have a medical condition such as high blood pressure, heart or lung disease, you must take the advice of a doctor who has experience with the effects of altitude. We do not take heart or lung patients, or pregnant mothers on such trips.

Any kind of exercise which gets you fitter before this trip is advisable, as it will enable you to enjoy the region more.

A day on a trek begins with breakfast at 7 am, by which time; you are expected to vacate your tent so packing can begin. Your help with setting up and packing up of tents is always welcome. We aim to usually be on the trail by 8:30 am and reach our camp for the day by 2-3pm, if not earlier. Long days on the trail may mean an earlier start and a 8-10 hour walking day. Lunch is usually had on the walk, and you'd get into camp for a welcome cup of tea.

You will sleep inside tents. Karri mats are provided for you to sleep on and are placed under your sleeping bag. If you have your personal karrimat, please carry it along.

Our entire crew will consist of guide and cooking staff (alongwith Zanskari porters), which would prepare the days meals for the days that we are camping out. Menus vary from Indian fare to Chinese, pasta, cold cuts, sandwiches, eggs etc.. We will provide you safe drinking water throughout the trek - it will either be bottled or boiled with a dash of iodine.

The entire crew moves together in a totally self-contained manner like a tight knit unit. All food, water and shelter, is carried on the trek which is why we need to use discretion while packing – see the update above on packing.

It will help for you all to carry some easy to access medicine on the trip, for headaches, diarrhea, constipation, and some rehydration powders like Electral etc. It's also a good idea to have a roll of toilet paper accessible should you need to go.

Checklist of essential personal items

Performance Clothing

- Lightweight Long Underwear – 2 pairs Tops & Bottoms. Should be made of moisture wicking synthetic material (capilene, polypropylene or Merino Wool. NO Cotton) Snug fit is important. Lightweight is preferable as it is more versatile (worn single in warmer conditions and double layer for colder).
- Midweight / Heavyweight Thermal Underwear – 1 pair Top & Bottom
- Light Fleece Jacket - 1
- Thick Fleece Jacket - 1
- Fleece / Wool Trousers - 1
- Down Jacket – 1

- Shell Jacket w/ hood – 1. We recommend a waterproof breathable shell material with full front zipper, (preferably underarm zips too), and no insulation. This outer layer protects against wind and rain.
- Shell Pants – 1. Waterproof, breathable. Full length side zippers preferred because it allows easy removal of pants, 7/8th zippers allowed but is more difficult to remove pants, no short lower leg zippers allowed.
- Quick dry Trekking Trousers-2
- Shirt / T- Shirt-3 (avoid cotton)
- Insulating Layers

Extremities

Hands

- Liner gloves – 1 pair thin wool or polypropylene To wear alone on very sunny days for hand protection or as a layering piece with your Shell gloves.
- Lightweight Insulating gloves – 1 pair fleece or wool
- Shell gloves – 1 pair, waterproof glove with insulation to be used on the snow.
- Optional Expedition Mittens – 1 pair, should be large enough to fit lightweight Synthetic Liner Glove.

Feet

- Liner Socks - 3 pair of smooth thin wool, nylon or Capilene to be worn next to the skin. This reduces the incidence of blisters and hot-spots and makes the outer sock last longer before needing to be changed. They should fit well with your heavyweight socks.
- Wool or Synthetic Socks - 3 pair lightweight socks to be worn over the liner socks. When layering socks, check fit over feet and inside boots.
- Med – Heavy Wool Socks – 2 pair

Headwear

- Wool/Synthetic Ski Hat -1. Make sure ears are covered.
- Balaclava -1. Heavy weight, must fit over wool/synthetic hat
- Sun Hat -1.One with a good wide brim to shade the nose & eyes.
- Neck Gaiter / Buff Bandana -1/2.
- Glacier glasses (with side covers or wrap around)-1 pair. Regular sunglasses are usually not sufficient. 100% UV, IR, high quality optical lenses designed for mountain use, must have side covers and leashes. If you wear contact lenses we recommend packing a spare pair of glasses.

Footwear

- Ankle high Waterproof Trekking Boots – 1 pair. should be well broken in shoes not brand new ones which can give you serious blisters
- Waterproof Gaiters.
- Camp shoes / Booties – 1 pair (synthetic or down filled)
- Sandals / Slippers - 1 pair

Personal Equipment

- Expedition Backpack-1.Internal frame pack expandable to a minimum of 60 lit. Keep it simple and light, avoid unnecessary zippers.

- Sleeping Bag-1(Expedition quality rated to at least -20 deg C). Goose down preferred over synthetic for bulk & weight. If well-cared-for a down bag will last much longer than a synthetic bag. Your bag needs to be long enough that your feet are not pressing out the foot box which will make you colder. It should be roomy enough for comfortable sleeping but snug enough for efficient heat retention.
- Compression Stuff Sacks for reducing volume. For sleeping bags and down clothing.
- Sunscreen SPF 40 or better - 2 small tubes. Note: Sunscreen older than 6 months loses half of its SPF rating, make sure that you have new sunscreen.
- Lip Balm - 1 stick.
- 2-3 Litre Water Bottle - At least 2 bottles with 1 litre capacity. Bottles should be wide mouth and of hard, transparent plastic BPA free plastic. No water bag or bladder systems for the mountain, they freeze or are hard to fill but you can use them on the approach trek. 1 liter NALGENE bottles work best. No metal bottles for the climb as lips have a tendency to stick.
- Water Bottle Insulation Cover -1 (Nalgene Bottle Cover available in Delhi for Rs 500/-)
- Pee Bottle (1 Liter)-1. Large mouth plastic bottle, clearly marked water bottle.
- Trekking Poles with Snow Basket – 1 pair.
- Headlamp with Spare batteries-1
- Toiletry Bag. Nothing but the basics: Toothpaste, Toothbrush, Baby Wipes. Include two rolls of toilet paper.
- Hand Sanitizer or Other alcohol based hand cleaners. A small bottle.
- Hand warmers and Toe Warmers Optional.
- Big Plastic Trash bags. To line stuff sacks and pack. ·
- Personal recreation: camera (small digital one), books, music, cards etc. (Important for those long boring times when the weather turns bad)

Traveling

- Travel Clothes. Clean clothes to wear before and after the expedition
- Large Duffle Bag w/ travel lock. Duffel should either be waterproof or should be lined with plastic bag/s from inside and have a full length zipper. No wheels or rigid/retractable handles.

First Aid Small Personal First-Aid Kit. Aspirin, Moleskin, waterproof first-aid tape, athletic tape, Band-Aids, personal medications. Drugs/Medications/Prescriptions. Acetazolamide (Diamox) 250mg tablets for altitude sickness. Ibuprofen (Brufen) 200mg tablets for altitude headaches, sprains, aches etc. Extra-Strength Disprin for headaches, Rehydration Salts like Electral. We will have an exhaustive first aid kit with us.
Snacks & Nutrition - You could bring your favorite snacks and power bars etc for the trail.

CHADAR TREK: FAQs & PREVIEW

Am I fit enough?
This is a tough trip that is made more difficult by the complexities introduced through high- altitude. (Read that section please). However, anyone with moderate fitness can do this. You do not have to be superhuman! The days are relatively short, and the terrain flat. Having said that, obviously the fitter you are the more you will enjoy the trip. We highly recommend that you embark on a fitness programme. It need not be an intensive undertaking – just make sure it involves cardio training.

Is there any medical precaution I need to take?
You must undergo a complete medical, and get a doctor's clearance. It will be ignorant and ill- advised to do this trip against your doctor's advice. Complete disclosure is expected of you in the booking form that you must sign at the booking stage.

What altitude will we be at?
Leh is at an altitude of 10,500 ft. The latter half of the trek will touch 12,000 ft.

What does this high-altitude business mean for me?
Travelling at these altitudes deserves a little more respect than a normal holiday. We do not have the space to deal with the subject at length, but briefly: at these altitudes the air is thinner, meaning that there is less oxygen to breathe. This makes every task seem more difficult; you will find yourself getting tired faster. Any exertion can seem like a challenge.

Anything else?
Yes. You are likely to experience some physiological problems until your body gets used to being at higher altitudes. This 'settling in' is called acclimatization. The time taken to acclimatize varies from person to person – it could take anything from one to five days. During the acclimatization period you may have any one or a combination of the following symptoms: headache, nausea, vomiting, insomnia or poor sleep, loss of appetite, lethargy and fatigue, difficulty in breathing, shortness of breath, a general feeling of malaise. A favourite symptom is flatulence! The sum of these symptoms is called 'Altitude Sickness' (or Acute Mountain Sickness).

Is this serious?
Acclimatization is a normal adaptive process. If you do develop symptoms, they will typically pass in a few days. However, if you do not help your body to adapt (resting, and drinking plenty of non-alcoholic fluids, is key to the process, amongst other precautions), your symptoms might get worse and could develop into a serious condition. The two most serious conditions are: Pulmonary Oedema (fluid entering the lungs), and Cerebral Oedema (fluid entering the brain cavity). Without getting into too much detail, in these stages the symptoms of normal Altitude Sickness get aggravated. These conditions are serious, but not fatal in themselves. If they are not immediately attended to, however, you could die.

What is the summary here?
People in good health should not be alarmed by these points, but if you have a medical condition such as high blood pressure, heart or lung disease, you must take the advice of a doctor who has experience with the effects of altitude. We do not recommend patients of the above do this trip. If you follow a regimen that includes drinking a lot of fluids (you must stay hydrated), eating well, and rest, rest, and rest, you will make a painless transition, and have a great experience. Expect a couple of unpleasant days. You must undergo a complete medical, and get a doctor's clearance. It would be not advisable to do this trip against your doctor's advice.
A good pair of **"waterproof"** hiking boots rather than hiking shoes is what is needed. They have to be ***completely waterproof (Gore-Tex) and not just water resistant*** and should come high up over the

ankles. We feel boots are one of the most critical pieces of equipment and one should not compromise on the quality. Gum boots are also on hire at Leh if you wish to walk in them, like the porters so.

What happens if I fall sick with serious Altitude Sickness?
All of us will feel less-than-optimal for a couple of days. This is expected, and is no big deal. However, if you ignore basic advice of your trip leaders, normal Altitude Sickness may progress to advanced stages of Pulmonary Oedema or Cerebral Oedema. If this happens we must do everything to prevent the condition from deteriorating. ***Please keep your guides connected with how you are feeling as a group, or an individual, with no peer pressure!*** Do understand that medical facilities are non-existent once we enter the Zanskar gorge. Hospitals are too far for rapid access. We are on our own. Prior to the trek we are in Leh for two nights. This period is normally sufficient for acclimatization. In case you still show serious signs of altitude sickness on the third day, the day of our departure, you will need to stay back and will not be able to proceed on the trip. In any case if you have been unable to acclimatize by this time you pose a good case for immediate evacuation to Delhi. ***Since there is insignificant altitude gain on the trek, the chances of developing altitude sickness on the Chadar are very low, provided you started off from Leh without any major issues of concern. If you do develop altitude sickness on the Chadar, there is no option but for you to walk out and return to Leh immediately (obviously staff will accompany you).***

What happens if I get advanced Altitude Sickness, and the symptoms don't subside?
If the symptoms do not subside even after the treatment (read the section on Diamox) and caution outlined above, there is only one other way to reverse altitude sickness, but luckily it's a SURE CURE: descend to a lower altitude. We need to put you on the first plane to Delhi. As soon as you are at a lower altitude, the symptoms will alleviate, and will start reversing immediately. Remember that Pulmonary and Cerebral Oedema are not fatal in themselves. They can be fatal if left unattended. They are completely reversible if immediate, proper care is taken.

How is the trip planned for acclimatization?
We have built in 2 days and nights of rest in Leh. On arrival from Delhi we will transfer immediately to the guest house / hotel and confine ourselves there, preferably staying in bed and resting all day. On the second day we will be driving out to visit Monasteries around Leh. The mild exercise will help. Those who are not upto it and show signs of altitude sickness will need to stay back and rest.

If on the morning of the third day, you show signs of anything more than mild acclimatization issues, you will not be able to proceed on the trek. Be wise and follow the advice that follows next.

Can I do anything to assist acclimatization?
The process of acclimatization is very unpredictable and varies from person to person. You can help yourself by adhering to the basic rules:
Rest is critical. Do not exert yourself.
Keep yourself hydrated. Drink lots of fluids – *3 litres by 3 pm* is the mantra through the day. In fact, as a general rule, if your urine has any colour, you need more liquid intake. Do not wait to feel thirsty before you drink. Keep a bottle accessible at all times. Many people make the serious mistake of keeping their fluid intake low to avoid the discomfort of getting up at night to relieve themselves.
Stay off smoking and alcohol. At least till you are well acclimatised.
You will probably have no desire to eat, since altitude dampens appetite, but you must force yourself to ingest at least small quantities of light food if you cannot handle a full meal.

Is there any medication you can take for altitude sickness?
Diamox (acetazolamide) and the homeopathic Coca 30 add some value in the prevention of Acute Mountain Sickness (AMS).
DIAMOX*
Diamox, a drug often used in the treatment of the eye condition glaucoma, is also useful in the prevention

of Acute Mountain Sickness (AMS). AMS occurs commonly during visits to 3000- 4500m and may cause a severe headache, exhaustion and general feelings of illness.
Diamox reduces the headache of AMS and helps the body acclimate to the lack of oxygen – it also probably reduces the incidence of the complications of AMS. Whether or not one takes Diamox is obviously a matter of personal choice – travel to high altitudes is quite possible without it. Though the drug is not recommended as a routine treatment, though there is variation of opinion about this many people choose to use it if travelling quickly to altitude (eg. if flying into Leh).

How to take Diamox

If you decide to use the drug, suggested dose is Diamox 125mg (half of one tablet) to be taken twice daily – take the drug for three days before staying at 3500m and thereafter for two or three days until you feel acclimatised, for about five days in all. NOT FOR THOSE ALLERGIC TO SULPHA DRUGS.

Side Effects

Like all drugs, Diamox may have unwanted side effects. Tingling of the fingers, face and feet is the commonest, but this is not a reason for stopping the drug unless the symptoms are intolerable. Dizziness, vomiting, drowsiness, confusion, rashes and more serious allergic reactions have been reported but are unusual. In exceptional cases, the drug has caused more serious problems with blood formation and/or the kidneys. Those who are allergic to the sulphonamide antibiotics may also be allergic to Diamox. More commonly, the drug makes many people (including me!) feel a little “off colour”; carbonated drinks and beer also taste strange when you are taking Diamox.
DIAMOX TEXT COPYRIGHT UIAA MOUNTAIN MEDICINE CENTRE

What to expect:

Now this is the tough part! Temperatures should be around freezing point during the day, but can plummet to 20o to 30o C under at night!
During the day, the trek is a brilliant hike in the sun. However an overcast day can make all the difference. Also, as the route winds through the Zanskar gorge one is constantly moving out of the sun into the cold shadows cast by the rock face. For those of you who don't know, the Beatles song “here comes the Sun...” was written for the Chadar!
The huge issue is wind chill. The gorge acts like a narrow funnel, and if the wind picks up, wish that it is behind you and not blowing into your face! There is a small chance of snowfall. Being prepared is the only way.

Weight restriction:

Since weight is at a premium we have a 15kg cap on the weight of the main bag. For obvious reasons the bags need to be as light as possible on the Chadar. Carry only what is absolutely essential, including minimal change of clothes. On the trek it's best to have a change of underwear and socks, and only one change of the innermost thermals – Carry only one set of warm mid- layer, and outerwear please! Plan to leave back in Leh the clothes that you will use over our three-night stay there, and a clean set for when we return.

How do we walk - crampons or not ?

We have seen some people use a 6 point crampons like http://www.camp-usa.com/products/crampons/6-point-steel.asp On one of our trips people had carried these but they all started walking without them before the end of the first day. It feels odd to wear them as one has to be quite conscious about how one places one's foot on the ice and it has a tendency to break the surface of the ice where its thin. Also they have to be continuously removed & worn as the path doesn't always stay on the ice. What really works on the slippery/ icy parts of Chadar is something like **a penguin gait**, one needs to mix the slide with the step. You don't really need to lift your feet much.
Have a look at this video http://www.youtube.com/watch?v=_8Smu-Llybg between 0:32 & 0:35 and you can see the girl use the technique very effectively. With the trekking poles in hand this technique keeps you balanced at all times as one is not really lifting the feet. If done properly it is much less tiring than walking on the ice. ***We do carry crampons so you do have that choice.***

SOME HELPFUL HINTS AND HANDY TRICKS

Layering For Cold Weather: Dress to the Nine-Belows
Master the art of layering to keep comfy all winter.
Winter Hiking

Stay Dry

That's the golden rule of winter hiking for polar explorer Eric Larsen. "Your biggest problem isn't getting cold," he says. "It's actually getting too warm and sweaty, because once you stop moving, hypothermia can strike in less than five minutes on cold, windy days." **So layering is key**. If you start sweating, immediately shed layers or slow down. Here are the basics:
>> Layer 1 (A) No matter how frigid the temperature, wear light, long-sleeved base layer next to your skin. Thinner layers wick sweat better and dry faster. Also, opt for shirts with thumbholes, which keep drafts from sneaking in between your sleeve and glove.
>> Layer 2 (B) Next comes a thin mid layer—either wool, polyester, or a blend of the two.
>> Layer 3 (C) A puffy, zippered jacket with a hood. This heat trap is your best friend in frigid temps.
>> Layer 4 (D) A shell made of a waterproof/breathable fabric with taped seams. Size it big enough so it fits over everything else. And avoid white jackets and gear, which get lost in the snow.
Stagger Zippers
Avoid stacking them around your neck and chin. Otherwise, you could have three to four zippers rubbing you wrong. Consider combining a crew neck baselayer with a zip-T insulating midlayer, then topping them with a neck gaiter.
Secure Your Hood
If the wind's whipping it, even with the cords cinched, put your goggle band over it.

Foil Fog If your goggles steam over, most likely it's because you're too hot. Unzip clothes, manage your body temperature, and keep anti-fog wipes in a handy pocket. Keeping your balaclava off of your nose also helps; just don't put your schnoz at risk for frostbite.
Pack a Facemask It should be windproof and have vents to prevent condensation and wet-out.
Wear Good-Fitting Gloves If you have to remove them to tie a knot, your digits might freeze. A great dexterity test: Get dressed and undressed while wearing gloves. If you can't do it, keep shopping.
Zip Up Pockets If you Don't "they can fill with spindrift when it's really blowing," says Brian Clark, a meteorologist who works at one of the planet's windiest spots, Mt. Washington.
Gaiter Up They'll keep out snow and prevent your crampons from slicing your pants.

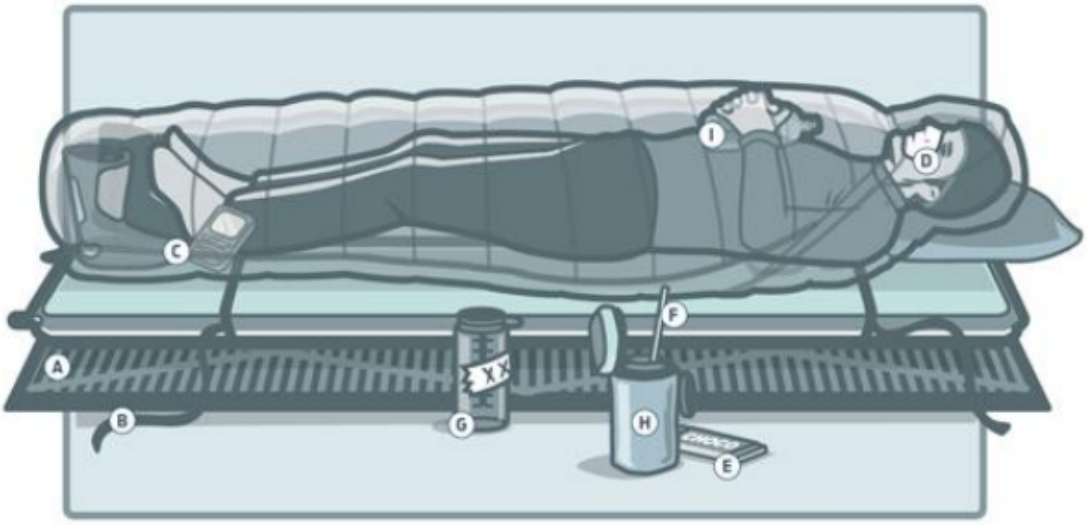
5 On-the-Move Tip

>> Keep food handy "Tear the corners off of several energy bar wrappers before heading out, then store the bars in warm pockets," says Larsen, "so you don't have to fumble with seals or remove gloves while on the move." For a quick energy boost, stow some hard candy in a pocket.
>> Huddle up when talking to your partners It'll keep you warm and carry sound better.
>> Work out sign language beforehand For example, holding poles out to the sides means "All OK."
>> Carry an emergency bivy Ounce for ounce, they offer the most weather protection if a storm, whiteout, or injury traps you in the field for the night.
>> Pack like a parachuter Load everything in reverse order. You won't need your bag or tent until day's end, so they go in first. Your puffy jacket, which you'll need at every rest stop, goes on top.

Cold Weather Camping: Sleep Better Than a Hibernating Bear

12 secrets for keeping your core (and your gear) warm in the coldest weather

Winter Camping



>> Flatten your sleeping surface

As soon as you climb into your tent, use your knees to smooth out the area under your pad. "Don't wait until later to do this," Larsen says. "Once the snow melts and refreezes, it's hard to manipulate. I also create a shallow trough for myself so I don't roll around."

>> Bring a closed-cell foam sleeping pad

Even a warm bag is a cold bag without a good, insulated pad underneath it. Most air mattresses only insulate down to about 30°F. If you want yours for comfort, lay down a foam pad **(A)** first, like the Therm-a-Rest Ridgerest Solar (p. 68).

>> Put your partner's pad close to yours

Less cold air will rise through the tent floor. Better yet, connect them and place stuff sacks and extra gear around the tent's inside perimeter to further insulate.

>> Stash your boot liners in your bag

Nothing hurts more than trying to ram your feet into frozen boots in the morning. Also, stow electronics, batteries, fuel canisters, and anything else you don't want to freeze **(C)** (buy a sleeping bag with a little extra length for this purpose).

>> Don't burrow deep into your bag

"Moisture from your breath will get trapped in the bag," Larsen says. "Instead, cinch the draft collar and close the hood down around your mouth and nose so you have a blowhole to breathe through" **(D).**

>> On high-wind nights, sleep in shifts

"Someone will have to check the tent's rigging every few hours," Finnegan says. "If you wait too long to tighten a line [because you don't want to leave your warm bag], the damage to the structure will be impossible to control."

>> Munch on a midnight snack

"If I wake up cold in the middle of the night, I wolf down Strawberry Clif Shot Bloks ($2 for six, clifbar.com) to fuel my engine," Larsen says. Other calorie-dense foods like chocolate **(E),** cheese, and nuts work, too.

>> Prevent spills

Put a straw near your water bottle for no-mess drinking in the middle of the night **(F).**

>> Be prepared for frost in the morning

On freezing nights, *water vapor often condenses on the tent's inner walls, your sleeping bag, and packs,*

even with the door cracked. Once the ice melts, it will sop your gear. Control frost by keeping your gear covered or inside garbage bags, and by sweeping (with a tent brush) ice crystals into collectable piles before they melt.

>> Don't hold it

If nature calls in the middle of the night, don't procrastinate; this makes you colder in the long run because your body has to burn calories to keep urine warm. Guys should consider using a designated pee bottle **(G)** (mark it with tape or some other feature). Girls, don't even bother; aiming is dang tricky. (For a review of pee gear, see backpacker.com/funnels)

>> Bundle up your water bottles

They also work to insulate hot drinks or soup.

>> Heat up your bag

Put a hot water bottle in your sleeping bag at night, and it'll radiate heat like a sauna stone **(I).**

Expert Wisdom - Sleeping Bags

1. Size matters. Climb in different models and check wiggle room. A superefficient mummy cut is no use if you can't sleep.
2. Go long. For cold-weather bags, get the long size. The extra space at the foot is a great place to keep water, batteries, and electronics from freezing.
3. Dress right. When you wear excess layers to bed in a trim-fitting mummy bag, the insulation compresses so the bag can't keep you warm. But if your bag is roomy, layer up so your clothes take up the dead air space.

- See more at:
http://www.backpacker.com/skills/beginner/winter-camping/cold-weathercamping-sleep-better-than-a-hibernating-bear/#sthash.wKnugMq0.dpuf

(Courtesy Kristin Hostetter)

CHADAR TREK: ALTITUDE SICKNESS

The Golden Rules

1. If you feel unwell, you have altitude sickness until proven otherwise
2. Do not ascend further if you have symptoms of altitude sickness
3. If you are getting worse then descend immediately

*created by Dr David Shlim

Don't die of altitude sickness.

Every year, people die of altitude sickness. All of these deaths are preventable. If you are travelling above 2500m (8000ft), read this information and tell your companions about it - it could save your life.

What is altitude sickness?

Altitude sickness has three forms. Mild altitude sickness is called **acute mountain sickness (AMS)** and is quite similar to a hangover - it causes headache, nausea, and fatigue. This is very common: some people are only slightly affected, others feel awful. However, if you have AMS, you should take this as a warning sign that you are at risk of the serious forms of altitude sickness: **HAPE** and **HACE***. Both HAPE and HACE can be fatal within hours.

HAPE

HAPE is excess fluid in the lungs, and causes breathlessness. It is never normal to feel breathless when you are resting - even on the summit of Everest. This should be taken as a sign that you have HAPE and may die soon. HAPE can also cause a fever (a high temperature) and coughing up frothy spit. HAPE and HACE often occur together.

HACE

HACE is fluid on the brain. It causes confusion, clumsiness, and stumbling. The first signs may be uncharacteristic behaviour such as laziness, excessive emotion or violence. Drowsiness and loss of consciousness occur shortly before death. HAPE and HACE often occur together.

Treatment of HAPE and HACE

1. Immediate descent is absolutely essential.
2. Dexamethasone and acetazolamide should both be given, if available.
3. Pressure bags and oxygen gas can buy time.

What causes altitude sickness?

Two things are certain to make altitude sickness very likely - ascending faster than 500m per day, and exercising vigorously. Physically fit individuals are not protected - even Olympic athletes get altitude sickness. Altitude sickness happens because there is less oxygen in the air that you breathe at high altitudes.

Altitude sickness prevention

Go up slowly, take it easy, and give your body time to get used to the altitude. The body has an amazing ability to acclimate to altitude, but it needs time. For instance, it takes about a week to adapt to an altitude of 5000m.

Can I take drugs to prevent altitude sickness?

As with everything, many 'quack' treatments and untested herbal remedies are claimed to prevent mountain sickness. These treatments can make AMS worse or have other dangerous side effects - many herbs are poisonous. Only one drug is currently known to prevent AMS and to be safe for this purpose: acetazolamide (diamox). It causes some minor side effects, such as tingling fingers and a funny taste in the mouth.

*HAPE stands for high altitude pulmonary oedema, and HACE for high altitude cerebral oedema. These medical terms simply mean 'fluid on the lungs/brain'.

Please help us to spread this information as widely as possible. Everyone who travels to high altitude should know this. Following these simple rules could prevent many deaths in the mountains each year.

The mild form of altitude sickness: acute mountain sickness (AMS)

Where does acute mountain sickness happen?

Most people remain well at altitudes of up to 2500m, the equivalent barometric pressure to which aeroplane cabins are pressurised. However, even at around 1500m above sea level you may notice more breathlessness than normal on exercise and night vision may be impaired. Above 2500m, the symptoms of altitude sickness become more noticeable.

What are the other names for acute mountain sickness?

Acute mountain sickness is sometimes colloquially referred to as altitude sickness or mountain sickness and in South America it is called soroche.

How are the symptoms of altitude sickness measured?

The most prominent symptom is usually headache, and most people also experience nausea and even vomiting, lethargy, dizziness and poor sleep. Symptoms are very similar to a really bad hangover. Acute mountain sickness can be diagnosed using a self-assessment score sheet. If you have recently ascended to over 2500m, have a headache and your total score is 3 points or more on the score sheet, then you have acute mountain sickness.

Who gets acute mountain sickness?

Anyone who travels to altitudes of over 2500m is at risk of acute mountain sickness. Normally it doesn't become noticeable until you have been at that altitude for a few hours. Part of the mystery of acute mountain sickness is that it is difficult to predict who will be affected. There are many stories of fit and healthy people being badly limited by symptoms of acute mountain sickness, while their older companions have felt fine.

There are a number of factors that are linked to a higher risk of developing the condition. The higher the altitude you reach and the faster your rate of ascent, the more likely you are to get acute mountain sickness. On the Apex high altitude research expeditions, flying from sea level to the Bolivian capital, La Paz (3600m), caused over half of the expedition members to have acute mountain sickness on the day

after they arrived. If you have a previous history of suffering from acute mountain sickness, then you are probably more likely to get it again. Older people tend to get less acute mountain sickness – but this could be because they have more common sense and ascend less quickly.

What causes altitude sickness?

There is so much less oxygen in the high mountains that it is not surprising that travelling to high altitude causes people to feel unwell, but how this shortage of oxygen actually leads to altitude sickness is still not fully understood. Some scientists believe that it is due to swelling of the brain but the evidence for this hypothesis is not conclusive. The theory is that in susceptible individuals, swelling could cause a small increase in the pressure inside the skull and lead to symptoms of acute mountain sickness. The swelling may be due to increased blood flow to the brain or leakiness of blood vessels in the brain.

What are the treatments for altitude sickness (mountain sickness)?

It is better to prevent acute mountain sickness than to try to treat it. Following the golden rules should mean that your body can acclimatise as you ascend and so you will be less likely to develop acute mountain sickness. However, if you need to go up more quickly, you could consider taking a drug called acetazolamide (also known as Diamox). There is now good evidence [BMJ. 2004;328:797] that acetazolamide reduces symptoms of acute mountain sickness in trekkers, although it does have some unusual side-effects: it makes your hands and feet tingle, and it makes fizzy drinks taste funny.

As with any form of altitude sickness, if you do have acute mountain sickness, the best treatment is descent. Painkillers may ease the headache, but they don't treat the condition. Acetazolamide may be helpful, especially if you need to stay at the same altitude, and resting for a day or two might give your body time to recover. It is essential that you should NEVER go up higher if you have acute mountain sickness.

If a travelling companion has symptoms of acute mountain sickness and becomes confused or unsteady, or develops an extremely severe headache or vomiting, they may have a life-threatening condition called high altitude cerebral oedema (HACE). Read more about HACE.

There are many other remedies touted as treatments or 'cures' for altitude sickness, but there is no evidence to support any of them. On our recent research expeditions we have conducted drug trials of antioxidants, which did not prevent altitude sickness, and viagra (Baillie JK et al, QJM 2009 102(5):341-348.)

High altitude pulmonary oedema (HAPE)

HAPE is a dangerous build-up of fluid in the lungs that prevents the air spaces from opening up and filling with fresh air with each breath. When this happens, the sufferer becomes progressively more short of oxygen, which in turn worsens the build-up of fluid in the lungs. In this way, HAPE can be fatal within hours.

What are the symptoms?

HAPE usually develops after 2 or 3 days at altitudes above 2500 m. Typically the sufferer will be more breathless compared to those around them, especially on exertion. Most will have symptoms of acute mountain sickness. Often, they will have a cough and this may produce white or pink frothy sputum. The breathlessness will progress and soon they will be breathless even at rest. Heart rate may be fast, the lips may turn blue and body temperature may be elevated. It is easy to confuse symptoms of HAPE with a

chest infection, but at altitude HAPE must be suspected and the affected individual must be evacuated to a lower altitude. If you think you have had HAPE, register on the HAPE database.

Who gets HAPE?
Unfortunately, it is currently impossible to predict who will get HAPE. This is one of the reasons why we have established the HAPE database. People who have had HAPE before are much more likely to get it again. Therefore, there must be some factor that puts certain individuals at high risk of the condition. However, just like acute mountain sickness, there are some known risk factors. A fast rate of ascent and the altitude attained will make HAPE more likely. Vigorous exercise is also thought to make HAPE more likely and anecdotal evidence suggests that people with chest infections or symptoms of the common cold before ascent may be at higher risk.

What causes HAPE?
Despite years of careful research the exact causes of HAPE remain poorly understood. Fluid has been shown to fill up the air pockets in the lungs preventing oxygen getting into the blood and causing the vicious circle of events that can kill people with HAPE. As with many biological processes many factors play a role in the disease and there is good evidence to support a number of theories about how this fluid gets there.

Normally, oxygen gets into your blood and is supplied to the body from your lungs. Each time you take a breath in, air rushes into the tiny air pockets at the end of all the airway branches in your lungs. At the same time, blood from your heart is brought close to these thin-walled air pockets, so that oxygen can move into your blood while waste products move out. Oxygen-rich blood then returns to the heart and is supplied to the body. If, by accident, you inhaled a small object into your lungs, it would become stuck in one of the airways branches. Little oxygen would get to the downstream air pockets. To prevent this area of lung supplying blood starved of oxygen back to the heart (and therefore the rest of the body), blood vessels in the area closed down or constrict. This is normally a very good thing and is an example of the body protecting itself.

At altitude however, this same process is a cause of the disease HAPE. Because the whole lung is starved of oxygen, the whole lung reacts in the same way – blood vessels constricting all over the place and not just in small areas. The blood in these vessels is squeezed and the pressure goes up forcing fluid out of blood and into air pockets. Click for a more detailed explanation of what happens to the lungs at high altitude.

Very dangerous and reactive substances are formed in your blood when you are starved of oxygen and these can directly damage the special membrane between air and blood in your lungs causing further fluid leak and worsening HAPE.

How is HAPE treated?
The most important treatment for HAPE is descent. Providing extra oxygen and/or raising the air pressure around a victim with a Gamow bag (see right) can reverse the underlying process, lack of oxygen, but these measures are really no substitute however for rapid descent down the mountain. Some drugs can be helpful, but should only be used by trained doctors. Nifedipine is a drug that helps to open up the blood vessels in the lungs. By doing so, it reduces the high pressure in those vessels that is forcing fluid out into the lungs. Sildenafil (Viagra®), by a different mechanism, also opens up the blood vessels in the lung and may be a useful treatment for HAPE. Following recent research,

medics may also give the steroid, dexamethasone. Drug treatment should only ever be used as a temporary measure; the best treatment is descent.

High altitude cerebral oedema (HACE)

HACE is a build-up of fluid in the brain. HACE is life-threatening and requires urgent action.

What are the symptoms?
HACE is thought to be a severe form of acute mountain sickness. A severe headache, vomiting and lethargy will progress to unsteadiness, confusion, drowsiness and ultimately coma. HACE can kill in only a few hours. A person with HACE will find it difficult to walk heel-to-toe in a straight line – this is a useful test to perform in someone with severe symptoms of acute mountain sickness. HACE should also be suspected if a companion starts to behave irrationally or bizarrely.

Who gets HACE?
About 1% of people of ascend to above 3000m get HACE. The lowest altitude at which a case of HACE has been reported was 2100m. HACE can also occur in people with HAPE and vice versa. Factors that increase the risk of HACE are similar to those for acute mountain sickness and HAPE. The faster the rate of ascent and the higher the altitude, the more likely it is that HACE will develop. HACE is thought to occur mainly in trekkers or climbers who have ignored symptoms of acute mountain sickness and climbed higher rather than staying at the same altitude or descending.

What causes HACE?
The cause of HACE remains unknown. Several factors may play a role including increased blood flow to the brain. An increase in blood flow is a normal response to low oxygen levels as the body needs to maintain a constant supply of oxygen to the brain. However, if the blood vessels in the brain are damaged, fluid may leak out and result in HACE. Although we know that reactive chemicals are released when oxygen levels are low and that these chemicals can damage blood vessel walls, it still hasn't been proven that the blood vessels in the brain are actually more leaky.

How is HACE treated?
Descent is the most effective treatment of HACE and should not be delayed if HACE is suspected. A Gamow bag, or portable altitude chamber, can be used as a temporary measure and, if available, oxygen and a drug called dexamethasone should be given.
Refs: Hackett P and Roach RC. High altitude cerebral oedema. HAMB 2004; 5(2):136-146

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CHADAR TREK: THE NEXT STEPS

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