

**Heat, Cold, High Altitude & Motion Sickness:** By: Dr. Sanjiv Sharma  
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### **Hypothermia**

Too much cold is just as dangerous as too much heat, particularly if it leads to hypothermia. If you are trekking at high altitudes or simply taking a long bus trip over mountains, particularly at night, be prepared. In Himalayas you should always be prepared for cold, wet or windy conditions even if you're just out walking or hitching.

Hypothermia occurs when the body loses heat faster than it can produce it and the core temperature of the body falls. It is surprisingly easy to progress from very cold to dangerously cold due to a combination of wind, wet clothing, fatigue and hunger, even if the air temperature is above freezing. It is best to dress in layers; silk, wool and some of the new artificial fibres are all good insulating materials. A hat is important, as a lot of heat is lost through the head. A strong, waterproof outer layer is essential, as keeping dry is vital. Carry basic supplies, including food containing simple sugars to generate heat quickly, and lots of fluid to drink. A space blanket is something all travellers in cold climates should carry.

Symptoms of hypothermia are exhaustion, numb skin (particularly toes and fingers), shivering, slurred speech, irrational or violent behaviour, lethargy, stumbling, dizzy spells, muscle cramps and violent bursts of energy. Irrationality may take the form of sufferers claiming they are warm and trying to take off their clothes.

To treat mild hypothermia, first get the person out of the wind and/or rain, remove their clothing if it's wet and replace it with dry, warm clothing. Give them hot liquids - not alcohol - and some high-kilojoule, easily digestible food. Do not rub victims, instead allow them to slowly warm themselves. This should be enough to treat the early stages of hypothermia. The early recognition and treatment of mild hypothermia is the only way to prevent severe hypothermia, which is a critical condition.

### **Altitude Sickness**

Lack of oxygen at high altitudes (over 2500m) affects most people to some extent. The affect may be mild or severe and occurs because less oxygen reaches the muscles and the brain at high altitude, requiring the heart and lungs to compensate by working harder. Symptoms of Acute Mountain Sickness (AMS) usually develop during the first 24 hours at altitude but may be delayed up to three weeks. Mild symptoms include headache, lethargy, dizziness, difficulty sleeping and loss of appetite. AMS may become more severe without warning and can be fatal. Severe symptoms include breathlessness, a dry, irritative cough (which may progress to the production of pink, frothy sputum), severe headache, lack of coordination and balance, confusion, irrational behaviour, vomiting, drowsiness and unconsciousness. There is no hard-and-fast rule as to what is too high: AMS has been fatal at 3000m, although 3500 to 4500m is the usual range.

Treat mild symptoms by resting at the same altitude until recovery, usually a day or two. Paracetamol or aspirin can be taken for headaches. If symptoms persist or

become worse, however, *immediate descent is necessary*; even 500m can help. Drug treatments should never be used to avoid descent or to enable further ascent. The drugs acetazolamide (Diamox) and dexamethasone are recommended by some doctors for the prevention of AMS, however their use is controversial. They can reduce the symptoms, but they may also mask warning signs; severe and fatal AMS has occurred in people taking these drugs. In general we do not recommend them for travellers.

A number of measures can be adopted to prevent acute mountain sickness:

- Ascend slowly - have frequent rest days, spending two to three nights at each rise of 1,000 metres. If you reach a high altitude by trekking, acclimatisation takes place gradually and you are less likely to be affected than if you fly directly to high altitude.
- It is always wise to sleep at a lower altitude than the greatest height reached during the day if possible. Also, once above 3000 metres, care should be taken not to increase the sleeping altitude by more than 300 metres per day.
- Drink extra fluids. The mountain air is dry and cold and moisture is lost as you breathe. Evaporation of sweat may occur unnoticed and result in dehydration.
- Eat light, high-carbohydrate meals for more energy.
- Avoid alcohol as it may increase the risk of dehydration.
- Avoid sedatives.

### Sunburn

In Himalayas, or at high altitudes you can get sunburnt surprisingly quickly, even through cloud cover. Use a sunscreen, a hat and barrier cream for your nose and lips. Calamine lotion is a good way to soothe mild sunburn. Protect your eyes with good quality sunglasses, particularly if you will be near the sand, sun or snow.

### Prickly Heat

Prickly heat is an itchy rash caused by excessive perspiration trapped under the skin. It usually strikes people who have just arrived in a hot and moist climate while trekking or climbing in Himalayas. Keeping cool but bathing often, using a mild talcum powder or even resorting to air-conditioning may help until you acclimatise.

### Heat Exhaustion

Dehydration and salt deficiency can cause heat exhaustion. Take time to acclimatise to high temperatures and make sure you get sufficient liquids. Wear loose clothing and a broad-brimmed hat. Do not do anything too physically demanding.

Salt deficiency is characterised by fatigue, lethargy, headaches, giddiness and muscle cramps; salt tablets may help, but adding extra salt to your food is better. Anhydrotic heat exhaustion, caused by an inability to sweat, is quite rare. Unlike the other forms of heat exhaustion, it is likely to strike people who have been in a hot climate for some time, rather than newcomers.

### Heat Stroke

This serious, sometimes fatal, condition can occur if the body's heat-regulating mechanism breaks down and the body temperature rises to dangerous levels. Long, continuous periods of exposure to high temperatures can leave you vulnerable to heat stroke.

The symptoms are feeling unwell, not sweating very much or at all and a high body temperature ( 102 to 106 degrees Fahrenheit). Where sweating has ceased the skin becomes flushed and red. Severe, throbbing headaches and lack of coordination will also occur, and the sufferer may be confused or aggressive. Eventually the victim will become delirious or convulse.

Hospitalisation is essential, but meanwhile get victims out of the sun, remove their clothing, cover them with a wet sheet or towel and then fan continually. Give fluids if they are conscious.

### **Fungal Infections**

Fungal infections are occur more commonly in hot weather and are usually found on the scalp, between the toes or fingers, in the groin and on the body (ringworm). You get ringworm (which is a fungal infection, not a worm) from infected animals or by walking on damp areas such as shower floors. To prevent fungal infections wear loose, comfortable clothes, avoid artificial fibres, wash frequently and dry carefully. If you do get an infection, wash the infected area daily with a disinfectant or medicated soap and water, and rinse and dry well. Apply an antifungal powder like tolnifate (Tinaderm). Try to expose the infected area to air or sunlight as much as possible and wash all towels and underwear in hot water and let them dry in the sun