



## ALTITUDE SICKNESS

At higher altitudes there is less oxygen in the air for normal functioning of the human body given sufficient time, the body can acclimatise. However, if ascent is too rapid, Altitude Sickness or Acute Mountain Sickness (AMS) occurs (generally above 2,500 metres). Altitude sickness is a potentially fatal condition if not recognised and treated early.

Individual susceptibility varies: males are more susceptible than females. A higher level of fitness does not mean an individual is less likely to experience AMS. In fact, the opposite applies: fitter people are often at higher risk because they are able to climb further faster.

### INCIDENCE

Every year, unnecessary deaths occur due to AMS. A third of Colorado skiers get AMS, a quarter to one half of all trekkers to Mount Everest Base Camp and regions of the Andes in South America and parts of Asia (Nepal, Tibet, Bhutanetc) are affected.

After travelling from sea level to altitudes of 2400 - 3000 metres, a small percentage of travellers will experience the symptoms of AMS. However at 3500m, 50% of travellers will feel unwell and at 4300m or higher, nearly all travellers will suffer symptoms.

The incidence of AMS in children is about the same as for adults however it is generally harder to recognise because symptoms can be mistaken for tiredness or naughty behaviour. Children should not trek after a recent respiratory tract infection as they may be more susceptible to pulmonary oedema.

### SYMPTOMS

Symptoms usually develop within a few hours, peak at 12-48 hours and settle in 3-4 days.

**Symptoms of altitude sickness may include:**

- Dizziness.
- Loss of appetite.
- Fatigue.
- Nausea.
- Headache.
- A general feeling of being unwell.

Never ascend if you have any symptoms of Altitude Sickness.

If AMS symptoms are ignored the condition can rapidly progress to the life-threatening syndromes of High Altitude Pulmonary Oedema (HAPE) and/or High Altitude Cerebral Oedema (HACE).

**HAPE symptoms include:**

- Rapid breathing (even when resting)
- Fast pulse rate (more than 110 beats per minute)
- Feeling of chest tightness
- Blueness of the lips and a persistent cough

**HACE symptoms include:**

- Severe headache
- Drowsiness
- Loss of balance
- Unusual behaviour

- Personality changes
- Progression to coma

## PREVENTION

The key to preventing illness is recognising the symptoms early.

It is the rate of ascent that is critical. Ascend slowly: plan gradual ascents of no more than 300m (1000 feet) per day once above 3000m. Above 3000m (10,000 feet) take a rest day for every 1000m gained.

Children under two years should not sleep at altitudes above 2000m, those aged 2 to 10 should not sleep above 3000m.

### It is also advisable to:

- Climb high and sleep low.
- Maintain adequate hydration (preferably 4-7 litres per day).
- Eat a high carbohydrate diet.
- Avoid smoking.
- Avoid sedatives at night.
- Be attentive to yourself and your companions. Look for symptoms (skipping meals, antisocial behaviour, stumbling, lack of co-ordination).
- Consider taking Acetazolamide (Diamox) for prevention of AMS in unavoidable rapid ascents, particularly if there is a past history of AMS. Diamox decreases susceptibility and reduces symptoms by speeding acclimatisation. Acetazolamide is contraindicated for those travellers who are on aspirin therapy or pregnant/nursing women. For those travellers who are allergic to sulphonamides, your Travelvax doctor may recommend a test dose before departure. (Note: Diamox will not prevent HAPE or HACE.)

## TREATMENT

Recognise the early signs and symptoms of altitude illness: headache, nausea, loss of appetite, lassitude and insomnia. Descent is the definitive treatment. Even descent of 150-300m may result in symptoms subsiding. Mild cases will settle in 1-2 days at the same altitude. When symptoms have settled, slow ascent may resume.

- Maintain adequate hydration and nutrition.
- Acetazolamide (Diamox) is helpful in treating mild AMS (Dose: 125mg [ $\frac{1}{2}$  tablet] twice a day). Side effects include tingling in the hands, feet & lips and frequent urination. (Potential side effects of Acetazolamide may be mistaken for altitude sickness so a trial of the drug at low altitude may help determine this.)
- Continue treatment until symptoms resolve (usually 2-3 days).
- Use of a Gamov bag can provide interim treatment.

Drug treatment of AMS in children is not well documented, but in life-threatening situations paediatric doses should be used.

**More information on acute mountain sickness and related health risks will be available during your Travelvax consultation. Call 1300 360 164 for the location of your nearest clinic.**