

## Health on a high altitude trek to Kilimanjaro

Altitude starts to have an effect above 2000 metres. The body tries to make up for the changes in oxygen levels. If you go up too fast then altitude illnesses are common. Given enough time to adapt, most people can adjust to an altitudes of 5895m (summit of Kilimanjaro).

Hiding illness at altitude can be very dangerous so discuss any complaints you may have with your trek guide. Remember that everyone reacts differently to altitude, but the changes will happen. Rescue procedures are in place on Kilimanjaro, including jeep tracks to Shira Camp and stretchers at all the lower camps. In the event of a rescue, it is necessary to involve the Park Rangers and your guides.

As you go higher the air pressure gets lower (the air gets 'thinner') and for every breath you take there will be less oxygen for your body. Oxygen is needed to keep your body alive, but as the body gets less of it, it adapts. You breathe faster and deeper. It makes more red blood cells to carry more oxygen in the blood.

Changes take time to happen. This is called acclimatisation and if you go slowly and look after yourself then you should stay healthy. Different people acclimatise at different speeds, so no rule works for everyone, but there are good guidelines. Going slowly and taking rest days helps the process, but do expect the occasional symptom. Dealt with correctly however, these symptoms will be unlikely to become a major problem, so be honest with how you feel. Dealt with incorrectly it can be disastrous, spoiling the trip for both yourself and the people with you.

Many people going to high altitude report headaches, being out of breath, sleeping badly and not feeling hungry. These are symptoms of AMS (acute mountain sickness); it is uncomfortable but not life-threatening. If AMS is allowed to get severe then it will develop into a serious illness like HAPE or HACE. If it gets worse then go down!

Don't allow ignorance to be the reason for worrying unnecessarily about your trek; many people do not know what is happening to their body. In fact it is a fascinating process, and you will be amazed at what your body can do.

Also remember your staff. Porters can suffer from altitude sickness too. Take responsibility for them, and consider their health and safety – it is as important as your own.

Adventure Alternative has set very clear standards for good trekking procedures for porters which includes: adequate clothing and footwear, adequate shelter, food and drink, medical care and insurance, care on descent if ill and an appropriate sized load to carry. We have a policy that is understood by our local agent and our guide. Our guides have received training in first aid and high altitude diagnosis and treatment.

If you have a pre-existing condition then it is important you tell us prior to your trek. Talk to your doctor if you are concerned, and take advice on what to do to lower the risk as far as possible. Always carry any medical information specific to your condition on your person and tell others in the group what to look for. For example, diabetes, high blood pressure, epilepsy, asthma or lung conditions, allergies or anaphylaxis.

Lastly, the environment at high altitude is more fragile than at low altitude. Natural processes are slower and any damage can be long lasting. We need to be responsible at high altitude where water, fuel, food supply and sewage disposal are difficult commodities to manage. Be aware that Kilimanjaro National Park is stretching its resources to the limit to provide facilities on the mountain. Water is scarce, wood is precious and waste is a continual problem.

## What is happening to your body at altitude

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|----------------|--|
| Lungs          | due to thin air you breathe more deeply to compensate and become short of breath resulting in occasional gasping with exertion and a cough due to dry air. This shortness of breath is normal, but walk slowly and take plenty of rests  |
| Heart/blood    | your body will produce more red blood cells which causes a thickening of the blood so drink water and plenty of fluids, and walk slowly with plenty of rests to allow this acclimatisation. Take aspirin to help thin the blood (75mg p/day)   |
| Kidneys        | as you acclimatise, your body produces more urine and you will pee more often. Exercise in dry air & altitude causes dehydration so drink several litres of liquid a day. Peeing a good volume of clear urine shows enough water going in. Use a pee bottle (or Shewee for ladies) at night to save getting out of bed all the time. |
| Stomach        | different diet may cause travellers diarrhoea and you may lose your appetite, and AMS may make you feel sick. Use boiled water or treat water with iodine. Use rehydration sachets if you do get diarrhoea. Drink plenty, always wash hands and take antibiotics if you do get sick.   |
| Joints/muscles | you will get more tired at altitude due to hard work and less oxygen. Get fit before you go! Work on cardio-vascular fitness, exercises that train your calf muscles and thigh muscles, and remember that the best way to train for climbing a hill, is to go and climb a hill, preferably with a rucksack on.                       |
| Ears/nose      | changes in the inner ear can trigger dizziness and light-headedness common to AMS. A blocked nose is also common and upsets the normal warming process and humidifying process that is essential to  |

keep lungs healthy. This causes a persistent cough. Blow nose regularly, use a wide brimmed hat, use sun block and barrier cream.

**Sleep** a disturbed sleep pattern is common during the first nights at altitude and is common; lack of sleep over several days indicates poor acclimatisation. 'Periodic' breathing during sleep is also common and not dangerous. Snoring may be made worse by dry, dusty air but does not appear to get worse at altitude. Expect to need more sleep, avoid caffeine and alcohol late in the day, and if your sleep does not improve after several days at altitude then consider going down.

**Eyes** high level of UV light can be damaging to eyes so wear sunglasses all the time, use high standard of hygiene with contact lenses, and consider lubricating drops. Sometimes eyesight can be affected by tiny retinal haemorrhages; these disappear after a few weeks but do descend immediately if this happens.

**AMS** Mild symptoms are to be expected, but if they get worse then it will be necessary to descend. Use the AMS scorecard in this booklet to gauge how bad you are and consider using Diamox to reduce the effects of AMS, but remember it is not a magic tablet! You can use Diamox in moderation and when it is needed, not simply as a preventative at the bottom of the mountain. And remember that the best advice if you continue to be sick is go down!

## Altitude Sickness

**AMS** Acute Mountain Sickness has symptoms which include: *headache, nausea, fatigue, poor appetite, dizziness and sleep disturbance, swelling in the face and hands (oedema), mood change, becoming clumsy, confusion, blurred vision, sore muscles.* All these are exacerbated by going too fast, not drinking enough fluids, not taking enough rest and not 'listening' to the early symptoms. The Adventure Alternative programme includes enough days without gaining any altitude and is a slow ascent, but some people may still suffer some symptoms. Be honest with yourself and if you feel very bad then please go down.

Talk to the guide who will arrange for some porters to carry your bag and assist you to the nearest gate where you will be met by Castro and taken to the hotel. This is not a failure, it is a sign of a mature response to a mountain situation. The mountain is always there!

Left ignored, the symptoms can develop into HACE or HAPE. The following is not designed to intimidate but to provide useful information to help yourself and others.

**HACE** High Altitude Cerebral Oedema - this is when the brain is affected by the lack of oxygen and it swells at altitude. It can occur when initial symptoms of AMS are ignored, however it can develop with no other symptoms or follow-on from AMS.

*Triggers* - dehydration, exhaustion, alcohol, going too high too fast

*Symptoms* - headaches, loss of balance, mumbling, mood change, sight problems, vomiting, reduced consciousness, odd sensations of senses, head sore, tingling

*Diagnosis* - stand upright with eyes closed and arms folded  
touch nose with index finger, with eyes closed  
do the heel-to-toe walk

*What to do* - stay with person, descend immediately (do not wait), keep upright and warm, provide oxygen or pressure bag if available, give Dexamethasone or Diamox

*If ignored* - loss of consciousness, reduced breathing, very dangerous

**HAPE** High Altitude Pulmonary Oedema – this occurs when a fluid collects in the lungs and it can occur even during descent.

*Symptoms* - trouble breathing, tired and weary, coughing, froth in spit, blue lips, tongue and nails (note: these can develop over days or in a few hours, and in descent)

*Diagnosis* - has there been recent ascent, long time to get breath back after exercise, breathless when resting, breathing rate increased, 'wet' crackling sound in the lungs (put ear to back behind shoulder blades)

*What to do* - stay with person, descend immediately (do not wait), keep upright and warm, provide oxygen or pressure bag if available, give Nifedipine and Diamox

*If ignored* - loss of consciousness, reduced breathing, very dangerous

In the event of an incident

- Make sure everyone is safe (if one person is hypothermic, what about others?)
- Make sure one person is in charge
- Collect information (exact location, type of incident, hazard to rescuers, access to incident, number of injured, equipment required)
- Communicate (telephone is mostly available nowadays with local mobile connection)
- Treat any casualties with first aid, remembering reassuring and kind words
- Make evacuation plans if necessary
- Keep everyone warm and safe

## Common ailments on trek and dosages

<u>Problem</u>	<u>Drug</u>	<u>Dose</u>
AMS Headache	Paracetamol 500mg tablets, and / or ibuprofen	2 tablets 4 times a day 400mg tablets, 1 tablet 3 times a day
AMS Nausea	Metoclopramide or Prochlorperazine	10mg tablets, 3 times a day 1 to 2x5mg tablets, up to 3 times a day
AMS Prevention	Acetazolamide (Diamox)	Half a 250mg tablet twice a day, 24hrs before ascent, only if necessary
HACE	Oxygen gas	Breathed continuously – cylinder or pressure bag
	Dexamethasone	8 - 16mg a day in divided doses, for up to 5 days
	Acetazolamide	250mg tablet, 1 tablet, 3 times a day
HAPE	Oxygen gas	Breathed continuously – cylinder or pressure bag
	Nifedipine	20mg MR tablet twice a day
	Acetazolamide	250mg tablet, 1 tablet 3 times a day
Diarrhoea	Ciprofloxacin	750mg 2 times a day or Azithromycin Capsules taken daily for 3 days
	Loperamide	2mg capsules taken up to 8 times
Dehydration	Electrolyte rehydration	in 200ml of boiled and cooled water
Infections	Amoxicillin	250mg 3 times a day for at least 5 days
	and / or Metronidazole	200mg 4 times per day or as recommended by doctor
Cough	Pholcodine Linctus	10ml up to 4 times a day
Sore Throat	Lozenges with anaesthetic	i.e. Benzocaine
Dry chapped	Lip balm & sunscreen Moisturiser cream	with at least SPF 15
Blocked nose	Pseudoephedrine or Xylometazoline Nasal spray	60mg 3 times a day

## AMS Scorecard

This is only a guide to help you decide whether to continue uphill if you have some symptoms. If you have a continual headache and a total score of over 3 then it is advisable not to go any higher.

H - Headache	None	0
	Mild	1
	Moderate	2
	Severe	3
G - Guts/stomach	Good appetite	0
	Poor appetite	1
	Nausea/vomit	2
	Severe	3
F - Fatigue/weakness	Not tired	0
	Mild fatigue	1
	Moderate	2
	Severe	3
D - Dizziness	None	0
	Mild	1
	Moderate	2
	Severe	3
S - Sleeping	No problem	0
	Not as usual	1
	Woke up lots	2
	No sleep	3

Day	Altitude	AMS Score					Total
		H	G	F	D	S	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							