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GUIDANCE FOR THOSE TREKKING ON MOUNT KILIMANJARO

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1. Introduction

Rising to an altitude of 5896m, the volcanic cone of Kilimanjaro dominates the surrounding plains of Tanzania and Kenya. Situated close to the Equator, the mountain provides the adventurous trekker with an exciting and diverse range of physical environments, from savannah and lush pastures through dense woodland to open heath and finally high-altitude desert. Temperatures on the mountain can fluctuate dramatically, from tropical heat to sub-arctic cold.

This document offers advice on key altitude-related issues that affect many people who attempt to ascend Kilimanjaro. It will be of particular interest to the individual who has no prior experience of trekking at altitudes up to 6000 metres.

2. Altitude problems on Kilimanjaro

In recent months, the Expedition Advisory Centre (EAC) of the Royal Geographical Society (with The Institute of British Geographers) has become increasingly concerned about the growing number of anecdotal reports of death and suffering caused by rapid ascents of this mountain by tourists, local people and mountain porters (see Appendix A for case studies).

Statistical information on the official number of people contracting altitude-related illnesses on Kilimanjaro is unlikely to paint the whole picture. This is because the majority of trekkers who contract altitude illness go on to make a complete recovery by the time they reach the park gates at the end of their trek (although sadly many of these people will have failed to reach the summit and/or had a miserable time during the ascent because of the rapid gain in height).

Emerging evidence from the EAC indicates that even when Kilimanjaro's popularity is taken into account, the number of people who develop some form of altitude-related illness on this mountain is higher than on many other high-altitude treks. (See Appendix B for a height gain comparison with the Everest trek). The ease of access to Kilimanjaro only compounds the problem.

3. Number of days currently taken by trekkers to reach the summit

Kilimanjaro is currently viewed by many adventure travellers as being a challenging one-week adventure. This viewpoint is fuelled by the large number of four to seven day package trips offered by commercial trekking companies and so-called 'charity treks'.

However, according to Lonely Planet's 'Trekking In East Africa': "Although many hundreds of trekkers reach Uhuru Peak [Kilimanjaro's true summit] every year without any real difficulty, many thousands don't make it because they suffer terribly from altitude illness, having ascended too quickly... There have been too many sad cases of trekkers who went too high too quickly on

Kili. At best, they fell ill and went down; at worst, they became so sick that they had to be carried down. Every year, a few unlucky (or unprepared) trekkers die."

It is worth noting that some operators disguise the actual number of days spent ascending the mountain by including the time required for the descent (one or two days) as well as the journey between the mountain and the hotel.

4. Number of days that the EAC recommends for an ascent of Kilimanjaro

According to 'The Mountain Traveller's Handbook', "More than 50% of travellers develop some form of AMS on ascent to 3500m, but almost all do so if they ascend rapidly to 5000m." The book goes on to state that, "The minimum acclimatisation period for any altitude greater than 2500m is to sleep no more than 300m higher than your previous night's camp, and to spend an extra night at every third camp."

Based on this rule, and assuming that the trekker was physically able to ascend to 2800m on the first night (2500m plus the daily allowance of 300m), it would require a further eight nights in order for the majority of people to safely adjust to the high camp at 4700m on Kilimanjaro. The final ascent to the summit (5896m) could be made on the 10th day, providing that the trekker returned to 4700m (or lower) to sleep that night.

However, The EAC recognises that it is impractical to spend 10-plus days on Kilimanjaro because of the relatively short distances involved and the current 'per day' pricing policy by the Tanzanian authorities. Therefore the EAC suggests that people planning to ascend the mountain conduct a programme of acclimatisation for several days on one of the nearby peaks of Mount Meru (4566m) or Mount Kenya (to Point Lenana, 4895m).

It should be noted that for the purposes of acclimatisation, reaching the actual summit of either of these attractive and interesting mountains should not be seen as the prime objective. Individuals who find that they are able to ascend only part of the way up Mt Kenya or Mt Meru due to the altitude may discover that they go on to perform satisfactorily on Kilimanjaro.

By conducting a programme of acclimatisation on Mt Kenya or Mt Meru, the trekker is very likely to go on to have not only a safer but also a far more enjoyable experience on Kilimanjaro, with a greater chance of summit success. (See Appendix C for a sample itinerary).

5. Financial considerations

The EAC recognises the high financial cost of climbing Kilimanjaro, and appreciates the additional financial burden created by an acclimatisation ascent of Mt Meru or Mt Kenya. However, the EAC believes that the additional financial outlay is small when compared to the satisfaction of reaching the summit of Kilimanjaro in good health, or the doubling of costs if the individual is unsuccessful and decides to return to Tanzania for a second attempt at a later date.

6. Conclusion

By spending several days acclimatising on Mount Meru or Mount Kenya prior to ascending Kilimanjaro, trekkers will:

- significantly reduce the risk of contracting altitude illness
- greatly increase the chance of reaching the summit of Kilimanjaro
- enjoy rather than endure this high-altitude mountain experience
- create the opportunity to reach the summits of two world-class mountains in one trip

The EAC recommends that trekkers – especially those who do not have previous experience of high altitude – only attempt Kilimanjaro when sufficient time is allowed for a programme of acclimatisation.

Appendix A: Case Studies

These case studies are provided as examples of how altitude illness can affect individuals on Kilimanjaro. Case study one describes how altitude illness can strike people who have not acclimatised prior to ascending Kilimanjaro. Case study two illustrates the reason why trekkers cannot rely on being rescued if they contract altitude illness.

Case Study One: an ascent of Kilimanjaro by a commercial trekking party

A commercial trekking company was issued a trekking permit to ascend Kilimanjaro via the relatively under-used Rongai route. The Rongai is cited by some commercial operators as being one of the superior routes on the mountain, not only because of the impressive vistas, but also because it requires a single additional day for the ascent, thus supposedly improving the acclimatisation programme for trekkers. The ascent of Kilimanjaro via the Rongai typically occupies five days, rather than the traditional four days on popular routes such as Machame and Marangu.

Despite the additional day of ascent, only nine trekkers (one half of the party) reached the highest point of Kilimanjaro (Uhuru Peak, 5896m). Two clients returned from a point mid-way between Uhuru and Gillman's Point (5680m). Another two turned around at Gillman's. A further two clients failed to reach Gillman's. Three clients did not attempt to ascend higher than Kibo Hut (4700m) due to the presence of mild to moderate Acute Mountain Sickness (AMS). It should be noted that every client displayed signs and symptoms of mild AMS at some point during the ascent. All of these symptoms disappeared as the party descended the mountain.

Interestingly, the western leader of the party who had climbed Lenana Peak (4895m) on nearby Mount Kenya the week before (and who regards himself as requiring a longer period than most people to adjust to 5000m) did not experience any symptoms of altitude illness during his ascent of Kilimanjaro.

Case Study Two: Tanzanian press photographer

On the eve of the millennium celebrations in 1999/2000, a Tanzanian press photographer with no previous experience of high altitude ascended the mountain in two days from the roadhead in order to photograph the New Year celebrations on the summit.

He collapsed between Gillman's Point (5680m) and Uhuru Peak (5896m) and was later found by a commercial trekking party. The two porters that the photographer had employed were still with him, but they had not taken any action with regard to his condition. The photographer was slurring his speech, and was unable to stand or walk unaided. He was able to make very slow progress only when supported by people on both sides of his body.

Suspecting the presence of High Altitude Cerebral Oedema (HACE) in the photographer, the western leader of the trekking party consulted his own local guides, before despatching one of the porters to raise the alarm at Kibo Hut (4700m) and to request that a rescue team ascend the mountain to assist with the evacuation. Together with the two porters and a fit and strong client, the western leader then succeeded in getting the photographer to Kibo Hut (4700m). It should be noted that the rescue team only started ascending the mountain from Kibo when they saw that the victim was less than 20 minutes from the hut.

On arrival at Kibo, two American doctors travelling with another trekking party volunteered to inspect the victim. They confirmed the presence of HACE. The doctors then administered drugs from their own supplies to the victim. The photographer was subsequently stretchered off the mountain to a lower altitude. He went on to make a full recovery.

Appendix B: Comparison with the classic Everest trek

The route to the trekkers' summit of Kalar Pattar (5625m) from Lukla in Nepal makes for an interesting comparison with Kilimanjaro. By ignoring the distances to be covered and by focusing on the height of each night's camp, a trek from Lukla to Kalar Pattar that observes the acclimatisation guidelines outlined in this document would look something like this:

Day 1:	Fly Lukla (2850m). Trek to and overnight at Phakding (2621m)
Day 2:	Trek to Namche Bazaar (3446m)
Day 3:	Rest day in Namche
Day 4:	Rest day in Namche
Day 5:	Trek to Tengboche (3867)
Day 6:	Rest day Tengboche
Day 7:	Trek to Periche (4252m)
Day 8:	Rest day Periche
Day 9:	Trek to Dughla (4620m)
Day 10:	Trek to Loboje (4930m)
Day 11:	Rest day in Loboje
Day 12:	Trek to Gorak Shep (5184m)
Day 13:	Ascent of Kalar Pattar (5625m) and return to Loboje

To achieve this in five days (equivalent to a typical ascent of Kilimanjaro) the trekking schedule would need to be:

1:	Lukla, 2850m
2:	Namche, 3446m
3:	Periche, 4252m
4:	Dughla, 4625m
5:	Kalar Pattar (5625m) and return to Dughla

Even if the physical distances involved could be covered in comfort, no reputable trekking operator would ever offer this kind of trekking schedule because of the massive increase in height each day. Yet this rapid gain in altitude is currently considered to be normal practice on Kilimanjaro. It is worth noting that Uhuru Peak (5896m) is over 250 metres higher than Kalar Pattar.

Appendix C: Sample itinerary for Kilimanjaro

There are several different trekking routes on Kilimanjaro, Mt Meru and Mt Kenya. The following itinerary is a sample trekking programme that would provide most individuals with an adequate level of acclimatisation prior to attempting Kilimanjaro.

The author is aware that this itinerary does not obey the day-by-day rules of acclimatisation as laid out in this document. Instead, it illustrates and makes provision for the problems of acclimatisation on these East Africa mountains; namely short trekking days and rapid gains in altitude. Spread over two mountains and the rule of acclimatisation is adhered to in this itinerary, which is achievable UK to UK in two weeks if the weekends either side of a fortnight's holiday are taken into account.

It is worth reiterating that for the purposes of acclimatisation, an ascent of Mt Kenya all the way to Point Lenana (4895m) should be seen as a bonus achievement rather than a mandatory obligation. Simply by reaching an altitude of 4000-4500m on Mt Kenya (or Mt Meru if your prefer), one is likely to feel the benefits of acclimatisation during the subsequent ascent of Kilimanjaro.

Mt Kenya (Chogoria ascent/Naro Moru descent)

Day 1: Nairobi - Chogoria Gate - Chogoria Bandas (3020m)
Day 2: Acclimatisation day
Day 3: Chogoria Bandas - Lake Ellis (3500m)
Day 4: Lake Ellis - Lake Michaelson (4000m)
Day 5: Acclimatisation day
Day 6: Lake Michaelson - Austrian Hut (4790m)
Day 7: Austrian Hut - Pt. Lenana (4985m) - then descend to Met.
Station camp (3000m)
Day 8: Transfer day from Kenya to Tanzania

Mt Kilimanjaro (Rongai ascent/Marangu descent)
Day 9: Park Gates to a camp on the forest line (2600m)
Day 10: Forest line - Kikelewa Cave (3600m)
Day 11: Kikelewa Cave - Mawenzi Tarn Hut (4100m)
Day 12: Mawenzi Tarn Hut to School Hut (4700m)
Day 13: School Hut - Uhuru Peak (5896m) - then descend to Horombo Hut (3700m)
Day 14: Horombo Hut - Park Gates - Nairobi

N.B. All heights are approximate.

Appendix D: The use of Acetazolamide (Diamox) on Kilimanjaro

Some trekkers decide to take Acetazolamide (Diamox) to aid their ascent of Kilimanjaro. The use of Acetazolamide as an aid to acclimatisation has been discussed in detail in many publications and advice is given on the BMC website (www.thebmc.co.uk/world.htm). Individuals are recommended to conduct their own research into the drug and to discuss its possible use on Kilimanjaro with their GP. The mention of Acetazolamide in this briefing document should not be interpreted as an endorsement by the EAC either of its use for the purposes of ascent, or as an alternative to a programme of acclimatisation on Mt Kenya or Mt Meru.

Appendix E: Further Reading

Guide To Mount Kenya and Kilimanjaro. The Mountain Club of Kenya. ISBN 996698603
High Altitude Medicine Handbook. Pollard/Murdoch. Radcliffe Medical Press. ISBN 1857752147
The Mountain Traveller's Handbook. Deegan. BMC. ISBN: 0903908476
Trekking In East Africa. Else. Lonely Planet. ISBN 0864425414