



ACUTE MOUNTAIN SICKNESS (AMS) Travel to altitude – prevention (and/or treatment)

WADA Prohibited Medication: Diamox (Acetazolamide)

Medical Condition

Acute mountain sickness (AMS) can be seen in susceptible travellers to altitudes greater than 2,500m.

The risk of AMS is increased in those with a past history of AMS, certain medical conditions and /or a rapid ascent itinerary.

Diamox (Acetazolamide) is the only medication which has been demonstrated to aid in the acclimation to altitude and the prevention of AMS symptoms. Diamox is also used to treat AMS.

Diamox is prohibited in and out of competition under the WADA code as a S5 masking agent/diuretic.

Past History of AMS

Athletes who have previously suffered AMS will have documentation of their assessment and treatment by medical services. Evidence would include presenting symptoms and ascent profile or altitude at which AMS developed.

Athletes who have previously had AMS, HAPE (high altitude pulmonary oedema) or HACE (high altitude cerebral oedema) are 12 times more likely to develop symptoms on return to altitude and in this group the use of prophylactic Diamox (Acetazolamide) is recommended.

Rapid ascent

The prevention of AMS is best achieved through a slow and graduated ascent profile (WMS Clinical Practice Guidelines for the Prevention and Treatment of Acute Altitude Illness: 2019 Update; Luks, Andrew M. et al; Wilderness & Environmental Medicine, Volume 30, Issue 4, S3 - S18 [https://www.wemjournal.org/article/S1080-6032\(19\)30090-0/fulltext](https://www.wemjournal.org/article/S1080-6032(19)30090-0/fulltext))

Where this ascent profile is not possible, medical guidelines (WEJM 2019, UIAA Medical Commission 2014, CJSM 2014, BMJ 2018) recommend the use of Acetazolamide for the prevention of Acute Mountain Sickness (AMS).

Medical Conditions that increase the risk of AMS

Athletes with medical conditions of a cardiac or pulmonary nature, sickle cell disease or obstructive sleep apnoea should consult with a physician familiar with high-altitude issues. Medical conditions associated with increased ascent risk are detailed by the CDC <https://wwwnc.cdc.gov/travel/yellowbook/2020/noninfectious-health-risks/high-altitude-travel-and-altitude-illness>.

Permitted alternatives

There are no WADA permitted alternative medications which are suitable for the prevention of AMS in travellers to altitude.

Treatment Protocols

1. Prevention

Diamox (Acetazolamide) 250 mg in divided doses (125mg BD) has been strongly associated with a reduced incidence of AMS. Medication should be commenced one to two days prior to arriving at altitude and continue for a period of five days in total.

A TUE can be applied for in- advance (prior to departure).

2. Treatment

Athletes who do not take Diamox (Acetazolamide) preventatively but then develop AMS while travelling, may be prescribed Diamox for treatment (250mg BD).

Under these circumstances, athletes should apply for a retro-active TUE (under the clause of “emergency treatment or treatment of an acute medical condition”). Dexamethasone may also be given for severe AMS symptoms. Dexamethasone is prohibited in competition only so if an athlete competes within seven days of administration a retro-active TUE should also be sought for Dexamethasone.

