

ALTITUDE EMERGENCIES IN THE PREHOSPITAL ENVIRONMENT

AMS Prevention

- **Rapid ascents to 2500M** or less do not require prophylaxis.
- **Rapid ascents to 2500M-3500M** in less than 24 hours: Use acetazolamide 125mg PO BID starting at 8 hours and 24 hours prior to ascent.
- **Rapid ascents to 3500M** or higher results in a 70-100% incidence of AMS. Prophylaxis with dexamethasone 4mg q6h and acetazolamide 125mg PO BID should be used starting 24 hours prior to ascent.

Mild AMS

- Score 3-5
- Consider evacuation to 300 –1,000m lower altitude to speed recovery
- Titrate SpO₂ >90% if available
- Administer ibuprofen or acetaminophen to treat headache.

Moderate AMS

- Score 6-9
- Consider evacuation to 300 –1,000m lower altitude to speed recovery
- Administer acetazolamide
 - Consider dexamethasone 4mg every 6 hours, max of 2 doses
 - No ascent until ≥24 hours after last dose

Severe AMS

- Score 10-12
- Evacuate 300–1,000m lower altitude
- Administer acetazolamide - 250mg every 12 hours
- Administer dexamethasone - 4mg every 6 hours, max of 2 doses
 - No ascent until ≥24 hours after last dose

STOP

STOP ASCENT IF PATIENT DISPLAYS

- Headache
- Fatigue
- Dyspnea
- Dizziness
- Nausea
- Sleep difficulties
- Anorexia

IF EVACUATION IS PROLONGED OR UNAVAILABLE

If immediate descent is not an option, individuals with severe AMS and risk of progression to HACE/HAPE should be treated with the following:

- HACE: administer dexamethasone - 8mg followed by 4mg every 6 hours.
- HAPE: administer nifedipine:
 - Extended release: 30mg orally every 12 hours
 - Immediate release: 20mg orally every 8 hours

If casualty is not a candidate for nifedipine, administer phosphodiesterase inhibitor.

- Tadalafil 10mg orally every 12 hours OR
- Sildenafil 50mg orally every 8 hours

Portable hyperbaric chambers can be used in conjunction with oxygen if available. It is a temporary stopgap pending descent.

AMS DX

Headache plus one of these:

- Weakness /lightheadedness
- Nausea/vomiting
- Anorexia
- Fatigue

HACE Dx

High-Altitude Cerebral Edema

- Ataxia
- Altered mental status OR
- No pre-existing AMS
- Onset of ataxia AND altered mental status

HAPE Dx

High Altitude Pulmonary Edema

2 Signs from:

- Tachycardia
- Tachypnea
- Crackles or wheezing in at least 1 lung
- Central Cyanosis

2 Symptoms from:

- Dyspnea at rest
- Cough
- Decreased exercise tolerance
- Chest tightness or congestion



- ✓ AMS patients are prescribed acetazolamide per protocol.
- ✓ HACE patients are prescribed acetazolamide per protocol.
- ✓ HAPE patients are prescribed nifedipine or phosphodiesterase inhibitors per protocol.



This information is pulled from the evidence-based Joint Trauma System (JTS) Altitude Emergencies in the Prehospital Environment Clinical Practice Guideline (CPG). JTS CPGs can be found at the [JTS CPG website](#) or the [JTS Deployed Medicine site](#).